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# Macworld

The Mac Experts | [www.macworld.com](http://www.macworld.com)

April 2007

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**On the Cover**  
Photograph by Peter Belanger





**COVER STORY**

**46** **Macs on the Move**

A bold new laptop design and next-generation wireless standard are shaking up the world of mobile computing. We'll take you inside the first Mac tablet and the new 802.11n AirPort Express, and show you how to abandon your desktop system for good.

**FEATURE**

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Now that you have an Intel Mac, what do you do with your old PowerPC one? Put it to work around the house as a security system, message center, art station, or backup server; sell it online for the best price; or recycle it responsibly. We show you how.

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It's time to spread the news: Apple is no longer a one-product company.



**46** **Macs on the Move**



**New Life for Old Macs 62**

**MACWORLD.COM Exclusives**

- > **Convergence** is gaining momentum. Voice and video are becoming just one more kind of data service rather than unique services with separate wires and equipment. Glenn Fleishman takes a look at how the **iPhone** fits in to the big convergence picture ([macworld.com/2540](http://macworld.com/2540)).
- > In the Macworld Podcast ([macworld.com/2541](http://macworld.com/2541)), Dan Frakes shows off some notable **iPod accessories** from January's Macworld Expo, and Rick LePage talks about **Adobe's forthcoming release of Photoshop Lightroom 1.0**.
- > In addition to our **DSLR camera roundup**, you can get even more news, reviews, tips, and commentary on our **Digital Cameras topic page** ([macworld.com/0135](http://macworld.com/0135)).





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# Laptop Nation

How portable Macs have gone mainstream. Plus: Do we look different?

**T**he second Mac I ever bought was a laptop. Since that day in 1992, when I first opened the box of my PowerBook 160, I have always had a portable Mac.

Back then, laptops and desktops occupied entirely different worlds. The pricing was different, as was the performance. But over time, as laptop technology has advanced dramatically and prices have dropped, those differences have diminished. As a result, portable Macs have gone mainstream.

Over the past nine months, more than 60 percent of the Macs that Apple has sold have been MacBooks. Sure, some of that has to do with pent-up demand for the fast new Intel-based Mac laptops. But the end result is that there are more new Mac laptops out there than new desktops.

These days, when *Macworld* writes about laptops, we don't approach the subject as if it's of interest to a coterie of digital nomads. That's not to say we don't recognize that differences still exist. Being a laptop user still presents its own challenges, from connecting to wireless networks to preserving battery power and making sure the files on your hard drive stay safe, even if your system is lost or stolen. But those concerns are shared by an ever-larger portion of *Macworld* readers.

That's why we've devoted this month's cover story, "Macs on the Move" (page 46), to three different issues of interest to anyone who uses a Mac laptop. First, we look at the new ModBook, a modified MacBook from Axiotron and Other World Computing that (finally) provides a Mac alternative to the Windows-based Tablet PC. The ModBook is definitely not for everyone—but it is extremely cool. We also look at Apple's new AirPort Extreme wireless networking hardware, which uses the speedy new 802.11n specification. And, finally, we have a collection of tips and advice for those of us who use a laptop, instead of a desktop, as our primary Mac.



**Over the past nine months, more than 60 percent of Macs sold have been MacBooks.**

## Macworld's New Look

If you pay close attention, you'll notice that this issue of the magazine looks a little different.

Yes, we've redesigned *Macworld*. But if you didn't notice at first, don't feel bad: We've tried to be subtle about it. Our art director Rob Schultz has been with *Macworld* for more than two years now, and so he knows what worked—and what didn't—in our previous design. Our goal was to maximize those strengths and minimize the weaknesses. Also, over the past couple of years, we've made a bunch of tweaks and additions here and there to the content of *Macworld*. The previous design was straining under those incremental changes, so we wanted to bring them all together as a coherent whole.

The result, I think, is a magazine that's still recognizably *Macworld*, but that's easier on the eye and easier to read.

In addition to the physical refinements, we've also made some structural changes to the magazine. *Hot*

*Stuff*, our collection of cool new products and Web sites, has moved from the back page of the magazine to the end of the *Mac Beat* section.

In its place, you'll find the return of an old *Macworld* tradition: the back-page columnist. The big difference is that our new *Spotlight* column won't be written by a single voice. Rather, it'll be a home for a wide variety of Mac writers. The first *Spotlight* columnist, John Gruber, made his name as the author of the Web site *Daring Fireball* ([daringfireball.net](http://daringfireball.net)). In future months, the back page will welcome other contributors, some of them brand-new to the pages of *Macworld*, some of them old friends.

We've also made some changes in our back-of-the-book how-to section. Month in and month out, Christopher Breen's *Mac 911* and Rob Griffiths's *Mac OS X Hints* are among the most popular stories in the magazine. With this redesign, we broke out these two columns—formerly part of our *Secrets* section—into their own *Help Desk* section. To boost that section's coverage, we've asked Mac troubleshooting expert Ted Landau to begin writing a monthly *Bugs & Fixes* column.

A magazine is a living, breathing thing. We may have updated our design this month, but the *Macworld* staff is constantly modifying what we do to better serve the hundreds of thousands of people who read the magazine each month. And we're always listening to your feedback, whether it comes via our e-mail letters mailbox ([letters@macworld.com](mailto:letters@macworld.com)), in the *Macworld.com* forums, or through the monthly research we do with our large panel of readers ([www.rsch.com/mwpanel/index.htm](http://www.rsch.com/mwpanel/index.htm)). However you want to communicate with us, please keep letting us know what you think. ☒

Got a comment? E-mail [jason\\_snell@macworld.com](mailto:jason_snell@macworld.com) or post a message at [macworld.com/forums](http://macworld.com/forums).



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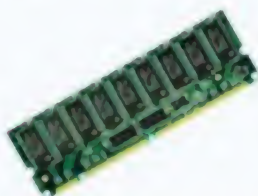
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# Your Take on Tech Trends

Plus: keyboard reviews, the Apple TV, and five years of the iPod

## Looking Back on the Future

Flash memory, as described in "What's Next" (January 2007), is old hat. I still regularly use three HP handhelds—a 100LX, a 200LX, and a Jornada—each of which relies on flash memory for storage. The HP Omnibook 300—the big brother of those handhelds—was about the size of a large paperback, yet it featured Windows, Lotus 1-2-3, Quicken, cc:Mail, and a database program in ROM; one version of the Omnibook used flash PC Cards for storage.

Lawrence Zeitlin

In your ongoing coverage of Parallels Desktop for Mac, you neglect to mention one of its disadvantages when compared with Boot Camp: running two operating systems at the same time means splitting your system resources between them. If you run Windows XP in Parallels on a MacBook with the standard 512MB of RAM, each OS gets a measly 256MB, which isn't enough. With Boot Camp,

you get a fully capable Mac or a fully capable PC; I think that's worth the few extra minutes it takes to reboot.

Mike Szekely

Upgraded Apple Cinema Displays should have been on your list of technology trends for 2007. Once Apple introduces HD optical drives to the Mac (as you predicted in the article), the

company will have to upgrade its displays as well, so that they can display movies encrypted with HDCP (High-Bandwidth Digital Content Protection).

Scott Cromwell

I can't believe you didn't spread the content of your January issue over the space of two or more months. I don't know if it really contained that much more information than usual, or if I just felt inclined to read it cover to cover. I'm not saying past issues have been bad, but I usually skip over a lot of the content because it doesn't pertain to or interest me. This issue was different. It covered a lot of different technologies, the direction in which they're likely going, and how they affect me, a Mac user. Phenomenal.

Bryce D. Berg

## Input on Input Devices

I'm disappointed that you neglected to include keyboards with built-in trackballs, touchpads, or touch-sensitive cursor pads in your roundup of input devices ("Mac Keyboards and Mice at Your Fingertips," *Reviews*, January 2007). I know of at least six models, including the Belkin MediaPilot and several by Adesso. Having the keyboard and mouse together in one unit has many advantages. For one thing, you can use the keyboard on your lap without needing a desk. In our living room, we have a Mac mini connected to a rear-projection TV. With the keyboard in our laps, we can edit iMovies, check our e-mail, and so on from across the room. With the push for making computers multimedia living-room appliances, building the mouse into the keyboard is a better idea than ever.

Benjamin Miller

We've covered a few combo keyboards. But in my experience, keyboards with



## OVERHEARD ON THE FORUMS



"If I touched [the iPhone], I wouldn't wash my hands. Ever."

iron\_chef  
macworld.com/2515

**"Yes, the iPhone is an amazing device. But the truth is it's not for everyone. Right now, I have no interest in it. I'm not a Cingular customer and have no plans to become one anytime soon. As cool as the iPhone is, it's a 'Wow—but I can't use it' type of device."**

OM\_user  
macworld.com/2516



integrated pointing devices tend not to be good at either job: the combined devices are generally lower-quality than individual components would be. Unless you really need an all-in-one product—say, for living-room computing—you're generally better off with a separate keyboard and a mouse or trackball.—Dan Frakes

Reading your review of keyboards and mice, I had the same visceral reaction I get when I read about Macs in the PC press. I am a lefty who refuses to use a right-handed mouse. As I read your otherwise excellent article, I looked carefully to find out whether these mice work left-handed. I found just one reference to the issue in the entire story. I know that only 10 percent or so of us are left-handed, but I chafe at being ignored. In my book, any pointing device that's available only in a right-handed model should have that shortcoming listed among its cons.

✉ C.N. Ashley

You make a good point. We should have spent more time on the lefty issue. The original draft of the story had a sidebar on that topic, but we had to cut it for space reasons; it survived online at [macworld.com/1696](http://macworld.com/1696).—Jackie Dove

I can't be the only Mac user who does not use a numeric keypad. And I can't be the only one who prizes desk space. So why do none of the keyboards reviewed in your article give up that keypad in exchange for compactness? True, the Key Ovation Goldtouch Apple Compatible Keyboard omits the numeric keypad, but its unconventional design puts it in a category of its own. I still use a Datadesk TrackBoard ([macworld.com/1695](http://macworld.com/1695)), which replaces the numeric pad with a smaller-footprint trackball. It's a great solution, but the company has been painfully slow in revising the product for compatibility with new versions of OS X.

✉ Terry Dunham

Your review of the Logitech Cordless Desktop S 530 Laser for Mac missed one critical factor: the Logitech Control Center (LCC) software is compatible only with OS X 10.2.8 through 10.4.7. It

doesn't work with 10.4.8, which renders the LCC unusable if you have that OS.

✉ Tony Cervo

I wrote that review before the release of OS X 10.4.8, and other than the laptop issue mentioned in the review, I had no problems with the S 530 in 10.4.7. In late December, Logitech released a new version of LCC that the company claims is compatible with 10.4.8.—Dan Frakes



## Who Wants Their Apple TV?

After reading your article about the coming Apple TV ("iTV FAQs," *Mac Beat*, December 2006), I have one question: Why in the world would I want one of these things? I'm not averse to new technology—I own both a MacBook Pro and an iPod—and I'd like to think this new product could be of some benefit to Mac users. But I just don't see how it can be.

✉ Via the Internet

## Harshing on the Lamers

Your article about the iPod's fifth birthday ("Live at Five," *Mac Beat*, January 2007) made my day, particularly the quotes regarding the original iPod. My personal favorite: "No wireless. Less space than a Nomad. Lame." As a high-school student who has been brought up in a Mac-only family and who thinks the only thing cooler than my pink mini is my sister's iPod video, I wonder what that person thinks of the iPod now.

✉ Katie Greene

## Park Your Widget

In his reply to the question about putting Dashboard widgets on the desktop (*Mac 911*, January 2007), I can't believe

Christopher Breen failed to mention this simpler way: activate Dashboard, click on the plus-sign (+) icon to reveal the widget bar, hold down the  $\mathbb{A}$  key, and drag any widget off the bar. While still holding down the  $\mathbb{A}$  key, press your Dashboard hot key again to close Dashboard. You can then drop your widget anywhere on the desktop.

✉ Dave Silvan

Several readers suggested this technique. I specifically didn't mention it because it doesn't really put the widget on your desktop. Rather, the widget will float above your other applications and above the desktop until you next invoke Dashboard, when it returns to its widgety home. If you truly want the widget *on the desktop*, you need to use the method I described.—Christopher Breen

## Restoring Windows

Regarding the letter about Time Machine (*Feedback*, January 2007), Windows has indeed had a System Restore feature for years. But I never considered it a serious tool for system repair. I worked in Windows tech support for three and a half years. More often than not, some random malware crippled System Restore, and it didn't work when I needed it most. If it did happen to work, I would often find that it resurrected previously defeated spyware and such. Hopefully, these problems won't plague our Macs.

✉ Justin Memmott

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# Mac Beat



BUSINESS

## Taking Aim at Apple

Are lawsuits against the company something to worry about? **BY JIM DALRYMPLE**

**L**ately, it seems as though you can't fire up a Web browser without finding a story about how Apple is embroiled in some legal problem or other. Whether it involves an individual or a multinational company, a lawsuit against Apple is sure to

make headlines around the world (see "Apple's Legal Troubles" for details on some cases that are still pending). But even with more than a dozen cases currently in litigation, experts say that Apple's legal headaches are nothing to worry about.

"The number of lawsuits is not unusual for a company in Apple's position," says Scott Culpepper, an attorney at Georgia-based law firm Robins, Kaplan, Miller & Ciresi. "Any company that introduces a major new product like the iPod is going to generate an inordinate amount of lawsuits."

Indeed, Apple has been sued by companies over how the iPod works, and by customers over the integration between the iPod and iTunes, the iPod's volume levels, and even Apple's handling of stock options.

Roger Kay, the president of market-research firm Endpoint Technologies and a longtime Apple watcher, agrees that such lawsuits are quite common. "You hear about it more because it's Apple, and [the company is] successful, but it happens all the time. It's a disease of the modern era."

### Intellectual-Property Issues

These days, many of the lawsuits facing corporations such as Apple are related to intellectual property—mostly copyrights, trademarks, and patents. The longtime struggle between Apple and The Beatles' company, Apple Corps, for example, dealt with the use of the word *Apple* and the Apple logo. (The companies recently reached an agreement that settles all their legal differences.)

But many of these suits come well after a product has been introduced, because patent-holding companies—businesses whose entire model is filing for and holding patents—own the patents, and it may take them a long time to find an infraction.

"A patent is not a right to produce something; it's a right to exclude others from producing what the patent covers," says attorney Culpepper.

When a product reaches the iconic status of the iPod, most companies have to factor in lawsuits as a normal cost of doing business.

"Anytime a company becomes more successful, it becomes a bigger target," says Tim Bajarin, the president of high-tech consulting firm Creative Strategies.

ILLUSTRATION BY DAN PAGE, IPOD PHOTOGRAPH BY PETER BELANGER



## NEWS IN BRIEF

### Rivals Slam Vista on Antitrust Grounds

As Microsoft geared up for the consumer launch of Vista, rivals claimed that the OS breaks the very same European antitrust laws that its predecessor XP fell foul of in 2004, and that it will be riddled with bugs. "Microsoft has chosen to ignore the fundamental principles of the [European] Commission's March 2004 decision," said Simon Awde, the chairman of the European Committee for Interoperable Systems, in a statement. He added that the new product goes even further, by leveraging its desktop dominance to compete on the Internet.



### Harvard Extension School Offers iTunes U Previews

The Harvard Extension School, a continuing-education program at Harvard University, has started offering a selection of free course content previews via iTunes U (a joint effort by Apple and educational institutions to publish course content online). Some colleges and universities restrict access to the content to students, faculty, and alumni; others, like the Harvard Extension School, make course content publicly available. The iTunes U effort includes video previews of 15 of the 50 distance education courses—in fields such as computer science, history, and the liberal arts—available at the Harvard Extension School this spring. Each preview is 10 to 15 minutes long, and you can also download audio of each complete two-hour introductory lecture.

Culpepper agrees, noting that the strategy is not new. "Since the beginning of lawsuits, people have looked for deep pockets and successful products. [Apple's] success as a company is going to breed lawsuits."

### Customer and Shareholder Complaints

Not all lawsuits are intercompany squabbles over intellectual property—some are brought by a company's own shareholders. Apple recently found itself in this position, in the stock-option backdating scandal. Apple changed the dates on options granted to employees (including those to CEO Steve Jobs), to an earlier time when the stock was worth less than when the option was granted—thus making the options more valuable. There's nothing illegal about backdating options, as long as a company discloses the practice to shareholders and regula-

tors. Apple shareholders are suing Apple executives and directors on behalf of the company, alleging that the improper backdating has harmed the company financially.

"The shareholder suit is one of the weird ones for me," says Creative Strategies' Bjarin. "When Jobs came back to Apple, the stock could barely get to \$7, but since then, the stock has grown 1,700 percent. If I'm a shareholder, I should be kissing his hand, not kicking his butt."

Overall, the experts are not worried about these lawsuits, whether they're filed by users or by other companies.

"To me, it's a cost of doing business whether they have merit or not," says attorney Culpepper. Bjarin adds, "We are such a litigious society—everyone thinks they should have a piece of the pie." ❌

Jim Dalrymple is Macworld.com's news director.

## Apple's Legal Troubles

Apple has been involved in many legal battles over the past few years—here are a few that are still pending.

**Patents** Burst.com filed suit against Apple, accusing the company of infringing on four of its patents. Burst claims that Apple's iTunes Store, iTunes software, iPod devices, and QuickTime streaming products; other Apple software products (Final Cut Studio, GarageBand, iMovie, iDVD, and iWeb); and .Mac services are all affected by the patents. The Burst patents allegedly relate to methods and devices used for burst transmission of audio or video files.



**Loud iPods** Apple was accused by customers of selling its iPod music players and earbud headphones without adequate warnings about the risk of noise-induced hearing loss. A similar action was filed in Montreal, Canada, on February 1, 2006, seeking authorization to institute a class action on behalf of iPod purchasers in Quebec.

**Warranties** Originally filed in 2005, a class-action lawsuit accused Apple of selling used computers as new and failing to honor warranties. Plaintiffs also brought causes of action for misappropriation of trade secrets, breach of contract, and violation of the Song-Beverly Consumer Warranty Act.

**iTunes Integration** In January 2005, a user brought a case against Apple's tying of the iPod to the iTunes Store. The suit alleged unlawful tying of music purchased from the iTunes Store with the purchase of iPods and vice versa, and unlawful acquisition or maintenance of monopoly market power. The hearing on class certification is set for April 16, 2007.







## AUDIO

## iPod Shuffle Goes Color

1GB player now comes in blue, pink, green, orange, and silver

**T**he second-generation (2G) iPod shuffle is the smallest and least expensive iPod Apple has ever released, but its silver hue didn't give it the personality or the vibrancy of the colorful iPod nano (or the iPod mini). Now Apple has spiced up the shuffle by adding four new colors: blue, pink, green, and orange (the original silver is still available). The 2G 1GB iPod shuffle (★★★★) remains at \$79.

In addition to sporting new colors, the iPod shuffle now includes Apple's latest earbud headphones, the same ones that come with the full-size iPod and the iPod nano. The earbuds' quality isn't very different from that of the previous version's, but the earbuds themselves are a bit smaller and more curved. And instead of removable foam pads, they have

integrated rubber rings around the edges.

The tiny iPod shuffle is made of aluminum, weighs slightly more than half an ounce, and has a built-in clip that you can use to attach the shuffle to your lapel or pocket. Apple says that the shuffle's 1GB of memory lets it hold up to 240 songs (the shuffle supports all the audio formats that the other iPod models do, except for Apple Lossless).

Apple rates the shuffle's rechargeable battery at 12 hours, but we managed to get around 16 hours on a full charge in our tests. And as the only iPod without a 30-pin dock connector, the shuffle requires the included dock for syncing. —**PETER COHEN AND JIM DALRYMPLE**

FIND IT ONLINE

Read our review of the 2G iPod shuffle at [macworld.com](http://macworld.com)

2238

## WIDGET OF THE MONTH

### Menu Butler

MacMage's free Menu Butler widget shows you all your available Menu Extras in a convenient palette in Dashboard. Click on one, and voilà—it appears in your menu bar ([macmage.com](http://macmage.com)). —**DAN FRAKES**



## GAME BUZZ

### Feral Shows Off Lego Star Wars II

During January's Macworld Expo, Mac game publisher Feral Interactive revealed that it had been working on a Mac conversion of LucasArts' *Lego Star Wars II*. The 3-D action game lets you play as Lego versions of characters from the *Star Wars* films, and it follows the events depicted in the original trilogy. Although it's rated E10+, for everyone 10 years old and older, the game's appeal isn't limited to kids. You navigate your way through scenes from the movies—helping Luke Skywalker, Han Solo, and Chewbacca battle Imperial Stormtroopers on the Death Star, fighting through the forests of Endor as the Rebels attempt to lower the Imperial Shield Generator, and more. Feral hasn't yet set a ship date for the game.



### RollerCoaster Tycoon 3: Soaked Is Mac-Bound

Aspyr Media announced plans to release a Mac version of *RollerCoaster Tycoon 3: Soaked*, an expansion pack for the popular strategy game that puts you in charge of an amusement park: you have to build the rides, lay out the park, staff the park effectively, and, in some cases, design the rides. *Soaked* is the first expansion pack for *RollerCoaster Tycoon 3*, and it lets you build a water park complete with wave rides, flume rides, water slides, aquatic shows, beaches, and more. The pack requires the full game to operate, and may be available by the time you read this.



FIND IT ONLINE

Find more game news at [macworld.com](http://macworld.com)

2518

### HARDWARE

**Internal Blu-ray Recordable Drive**, from MCE Technologies ([www.mce-tech.com](http://www.mce-tech.com)): User-installable internal drive for Mac Pros and Power Mac G5s can record up to 50GB on dual-layer Blu-ray discs (\$699).

**LightSnake USB**, from SoundTech Pro Audio ([www.soundtech.com](http://www.soundtech.com)): Intelligent USB microphone cable incorporates embedded analog-to-digital converter and signal booster (\$70).

**Symphony Mobile**, from Apogee Electronics ([www.apogeedigital.com](http://www.apogeedigital.com)): Native audio workstation designed specifically for the MacBook Pro features 32 channels of 24-bit 192KHz digital input and output and compatibility with CoreAudio software applications (\$595).

**Quicky**, from QuickerTek ([www.quickertek.com](http://www.quickertek.com)): This USB transceiver is designed to improve the wireless networking range of iMacs by up to 10 times (\$225).



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Tera Patricks, Mac360.com

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## MAC BEAT



### PHOTOGRAPHY

# Adobe Releases Photoshop Lightroom

Tool for digital photographers rivals Apple's Aperture

**M**ore than a year after being announced—and with the help of more than 500,000 beta testers—Adobe's Photoshop Lightroom 1.0 is finally shipping to customers. The app is designed to aid professional photographers with their digital workflows.

Lightroom's Library view is your primary dashboard; in it, you can perform basic editing tasks, add keywords, and group images into collections.

In addition to more-advanced key-wording tools, Lightroom includes a Metadata Browser, which provides quick access to images. It lets you search the tags that most digital cameras embed into images. New since the last beta are Clone and Healing tools, which are designed to provide quick fixes that once would have required Photoshop or a full-scale image editor.

Using Adobe Camera Raw, Lightroom supports more than 150 raw file formats.

New camera models supported in the initial release include the Nikon D40 and D80 and the Pentax K10D.

Tom Hogarty, Adobe's Lightroom product manager, says that Lightroom fits in between Photoshop Elements and Photoshop CS2. The program is meant to address workflow challenges, so Hogarty expects that users will continue to turn to those other programs for editing tasks.

Adobe is releasing an import tool that will bring a Photoshop Elements library into Lightroom when users are ready to make the switch.

Lightroom is a Universal application, so it runs natively on both PowerPC- and Intel-based Macs. It sells for \$299, but Adobe is offering a special introductory price of \$199 until April 30,

2007.—JIM DALRYMPLE

FIND IT  
ONLINE

Find out more about Lightroom at [macworld.com/](http://macworld.com/)

**2521**

### SOFTWARE

**AmpliTube 2 Jimi Hendrix Edition**, from IK Multimedia ([www.amplitude.com](http://www.amplitude.com)): Guitar-amp and effects-modeling software focused on recreating the Hendrix sound features nine vintage stomp effects, four vintage amp models, seven cabinets, and four rack effects (\$249).

**EarthDesk 4.0**, from Xeric Design ([www.xericdesign.com](http://www.xericdesign.com)): Real-time dynamic desktop map has been reworked in Apple's Cocoa development environment and changed from an application to a System Preferences pane (\$20; upgrade, \$10 or \$13).

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Insight



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## PEOPLE

## Charles Seiter, PhD

Remembering the longtime *Macworld* contributor

**D**r. Charles Seiter, 58, was a *Macworld* hand for much longer than I've been a reader of or an editor at this magazine. While I never had the pleasure of meeting him in person, I did work with him a number of times on product reviews of software that was of interest mainly to the technical whizbrains of the Mac community.

Charles grew up in Chicago and San Diego. He graduated from the University of California San Diego in 1969 and then earned a double PhD in chemistry and applied mathematics from CalTech. He taught chemistry at USC for five years. As a *Macworld* writer and contributing editor for some 20 years, Charles specialized in scientific, mathematical, CAD, and statistical programs. Whenever one of those complex pro-

grams that I could not begin to fathom was released, I always knew he was the right guy for the job of writing about it.

But Charles wasn't esoterically left-brained. He also wrote *Everyday Math for Dummies* and *The Internet for Macs for Dummies*, and coauthored a slew of books on money management, Microsoft

Excel, and the Web. And he was a former *Jeopardy* champion—which placed him squarely inside the popular culture.

Charles was a fine writer and a great guy to work with. He knew his stuff inside out. He was a gracious gentleman and a scholar, and I will miss him. —JACKIE DOVE



FIND IT ONLINE

Read Charles's reviews for *Macworld* at [macworld.com/](http://macworld.com/)

2517

## DIALOG BOX

**"Backdating is totally legal if you disclose that it's done."**

Phil Dina,  
BusinessEdge Solutions  
compliance expert.  
For complete coverage of this topic,  
go to [macworld.com/2512](http://macworld.com/2512).

**"Verizon will strike back [with] a new player, where you can press as few as a dozen buttons to get to your favorite song, and you can listen to almost half of it before it drops out."**

Adam Felber, panel member on NPR's  
*Wait Wait . . . Don't Tell Me!*, talking about how  
cell phone companies will compete against the iPhone.

**"Five hundred dollars, fully subsidized, with a plan? I said, 'That's the most expensive phone in the world, and it doesn't appeal to business customers because it doesn't have a keyboard, which makes it not a very good e-mail machine.'"**

Microsoft CEO Steve Balmer on CNBC,  
when asked about his initial reaction to the iPhone.



## CREATIVE NOTES

## Adobe InDesign Add-Ons

Here are two add-ons for Adobe InDesign that should make your day a little easier. Page Control 1.0 lets you set up multiple page sizes in a single InDesign document (\$59; [www.dtpools.com](http://www.dtpools.com)); InPreflight 1.5 is an easy-to-use preflighting tool that notifies you of potential problems based on the settings you have defined for a job (\$40; [www.zevrix.com](http://www.zevrix.com)).



## ScopeBox

Divergent Media's ScopeBox turns your Mac into a video-analysis tool that can measure a video signal's luminance and color values to make sure that it conforms to broadcast standards. The high definition version costs \$699, and the standard definition version costs \$399 ([www.scopebox.com](http://www.scopebox.com)).

## Great Sites for Creative Pros

Creativebits includes articles, tips, tutorials, and commentary on a wide range of creative topics ([www.creativebits.org](http://www.creativebits.org)); Designorati offers a vast amount of information organized under topics such as Typography, Web Design, and Photoshop ([www.designorati.com](http://www.designorati.com)); and Real World Illustrator contains tutorials, tips, and commentary about Adobe Illustrator, by former product manager Mordy Golding ([rwillustrator.blogspot.com](http://rwillustrator.blogspot.com)).

FIND IT ONLINE

Visit the Creative Notes  
blog at [macworld.com/](http://macworld.com/)

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## PRODUCT WATCH

## SOFTWARE

**iChatUSBCam 2.2**, from Ecamm Network ([www.ecamm.com](http://www.ecamm.com)): Video-conferencing software adds support for many new Logitech USB Web cams as well as devices with multiple inputs (\$10; upgrade, free).

**MetaGrove Suite 1.1**, from Pound Hill Software ([www.poundhill.com](http://www.poundhill.com)): Suite of plug-ins provides Extensible Metadata Platform (XMP) support for Adobe Creative Suite 2 applications (\$299).

**SOHO Labels & Envelopes 2**, from Chronos ([www.chronosnet.com](http://www.chronosnet.com)): Upgraded application for designing and printing labels and envelopes has a revamped user interface, a Smart Inspector, a Project Wizard, and new design tools (\$40; upgrade, \$20).

**Tracktion 3**, from Mackie ([www.mackie.com](http://www.mackie.com)): Digital audio and MIDI production software adds time-stretching and pitch-shifting features (Ultimate Bundle, \$320; Project Bundle, \$130).



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## MAC BEAT

### MUSIC

# Jobs: An End to DRM?

Step would require support of major music labels

**I**magine a world without digital rights management (DRM) restrictions dictating how and where we can enjoy our downloaded digital music. In a bold—and highly unusual—move, Apple CEO Steve Jobs recently suggested such a dramatic switch in an open letter on Apple's Web site.

"If the big four music companies would license Apple their music without the requirement that it be protected with a DRM, we would switch to selling only DRM-free music on our iTunes Store," Jobs wrote in a missive titled "Thoughts on Music." "Every iPod ever made will play this DRM-free music."

Jobs's comments come at a time when consumers and European countries are pressuring Apple to loosen the tight ties between music sold on the iTunes Store and Apple's iPod.

Jobs criticized the efficacy of DRM technology, noting that it's difficult for a DRM system to work, because music companies sell ten times as much music on CDs, with no DRM, as they do online.

One iTunes competitor, Rhapsody operator RealNetworks, believes that DRM-free music will happen. "We think it's just a matter of time," says Dan Sheeran, RealNetworks' senior vice president of music. The Recording Industry Association of America,

however, believes that the answer lies in making existing technologies work together better.

"We all want to see this marketplace work and for fans to enjoy the music they have lawfully bought on various devices or services," the music-industry trade group said in a statement. "The

issue is how. One way to achieve it is for Apple to license its DRM to other technology companies. We think that's a great solution. We have no doubt that a technology company as sophisticated and smart as Apple could work with the music community to make [interoperability] happen."—JIM DALRYMPLE



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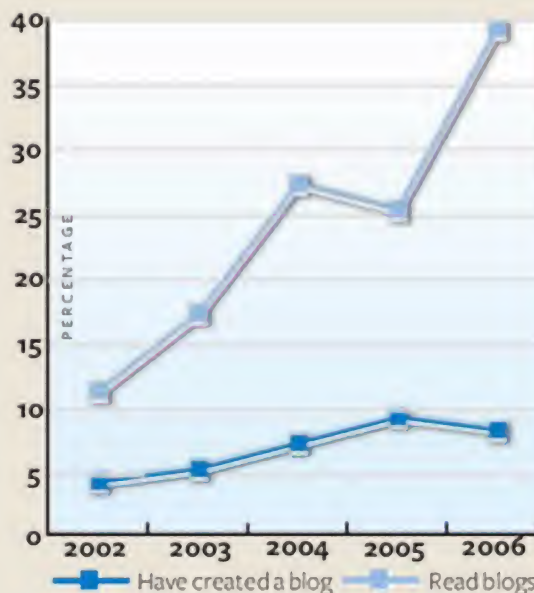
Read Jobs's complete letter at  
[macworld.com/](http://macworld.com/)

**2542**

## TECH TRENDS

### Blogs

It seems that everyone has a blog these days. The number of blogs has grown from fewer than 1 million worldwide in 1999 to more than 63 million today. But research firm Gartner shocked the blogosphere recently by predicting that the number of blogs would peak during the first half of 2007, at about 100 million. In fact, Gartner estimates that there are already about 200 million ex-bloggers who no longer operate sites. One thing appears certain, however—the number of people who read blogs continues to grow.—MARYANN JONES THOMPSON



Source: Pew Internet Project

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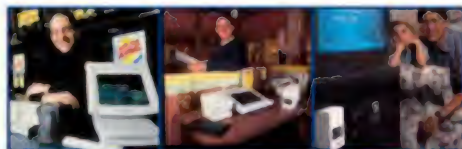
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## HARDWARE

# Assembly-Line Mac Minis

Tiny Apple hardware helps Ford improve productivity

If you've driven a Ford lately, chances are a Mac mini deserves some of the credit. That's because Ford Motor Company is using the Apple computers in two of its northern Indiana factories, to boost assembly-line efficiency. Fourteen Intel Core Solo Mac minis have been operating at the plants since early November 2006, helping Ford assemble 800 cars a day.

Information in Place, which is responsible for the development and installation of the Mac minis at Ford's plants, based its decision to go with Macs on several factors. "Mac minis are cost effective, and they are reliable machines," says Jonathan Schalliol, the company's vice president of business development and chief financial officer. "We did a lot of research and determined they were the best deal."



Ford uses the minis in its sequencing workflow, which involves taking bulk parts—headrests, seat covers, and so on—and placing them into boxes

in a specific order. As a car or truck moves down an assembly line, workers pick the next item out of the box to put the vehicle together in a way that matches all the other parts for that particular car.

While that workflow may seem simple, it can be expensive for automakers if parts are missing from their boxes or are out of order. When that happens, Schalliol says, the assembly line has to be stopped, which costs Ford money.

"The [PickIT] software will tell the workers if they are inserting the wrong part or if they don't follow the sequence," says Schalliol. "Each Mac mini has a touch screen, which is used to [skip] past a missing part if it's not available—that [information] is then recorded and labeled to come back to at a later date."

—JIM DALRYMPLE

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# Hot Stuff

What we're raving about this month

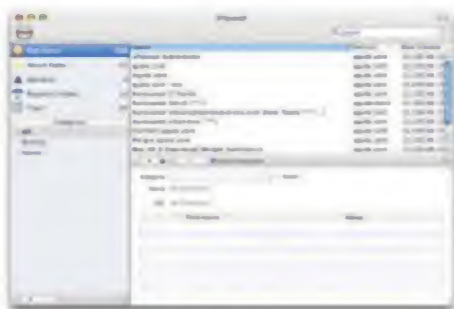
## TuneStudio

All 5G and nano iPods can record CD-quality (16-bit, 44.1kHz, stereo) audio, given the proper dock-connector add-on. Unfortunately, until recently those accessories were limited to small microphones with limited functionality—great for recording interviews and voice memos, but incapable of taking advantage of the iPod's true abilities. Belkin's upcoming \$180 TuneStudio, which will be available this summer, changes things. It offers a four-track mixing station, complete with powered-XLR, 1/4-inch, and RCA inputs, as well as EQ, level, and pan controls for each channel. Dock your iPod in the TuneStudio's cradle, and you can record your live performance in all its high-quality glory directly to your iPod. The next time you sync your iPod with your computer, iTunes grabs your recordings and you can then open them in your favorite audio editor for all your postproduction needs ([www.belkin.com](http://www.belkin.com)).—**DAN FRAKES**



## webEdition 4

If you look around the Web, you'll be hard-pressed to find two identical content-management systems (CMSs). Web-based packages are usually designed with the assumption that customization will be the first step after purchase. If you want that kind of control without a hefty bill, Living-e's webEdition 4 is a modular CMS that lets you build out only the features you need. Starting with the \$249 MySQL and PHP base package, you can add modules for handling schedules, newsletters, customer and user lists, and more. Buy only the modules you need, and avoid paying a bloated price for features you'll never use. Germany-based Living-e already boasts a strong following in Europe, and it's making a bigger push in the United States now. Extra modules range in price from \$95 to \$324, or you can spring for the complete edition for \$2,499 ([www.living-e.de/en](http://www.living-e.de/en)).—**CURT POFF**



## 1Passwd

Storing your login information in your Web browser is convenient, but it opens doors to phishers and hackers looking to access your sensitive data. Agile Web Solutions' \$30 1Passwd eliminates the chore of retyping your user name and password every time you log in to a site, but without compromising your security. The program automatically stores your information in an encrypted database that's protected by a master password of your choice. Enter your password each time you launch your browser, and then click on 1Passwd's browser-integrated buttons to fill in login information. 1Passwd also features form filling, so if you often buy items online, for example, you can fill in your name and mailing address with the click of a button. There's even a free limited version so you can see if it's for you ([1passwd.com](http://1passwd.com)).—**BRIAN CHEN**

## Twitterrific

By now, you may have heard of Twitter, a service that lets you publish whatever you're doing or thinking at that particular moment to a nice little Web page. These thoughts are called "tweets." It's somewhat like blogging at the lowest common denominator, and updates are limited to 147 characters. It's quick, simple, and fun. If you're a Mac user looking to get into tweeting, then check out The Iconfactory's free Twitterrific 1.0, which provides a perfect interface for Twitter. It's a good time to start chirping away ([iconfactory.com](http://iconfactory.com)).—**PAT NAKAJIMA**

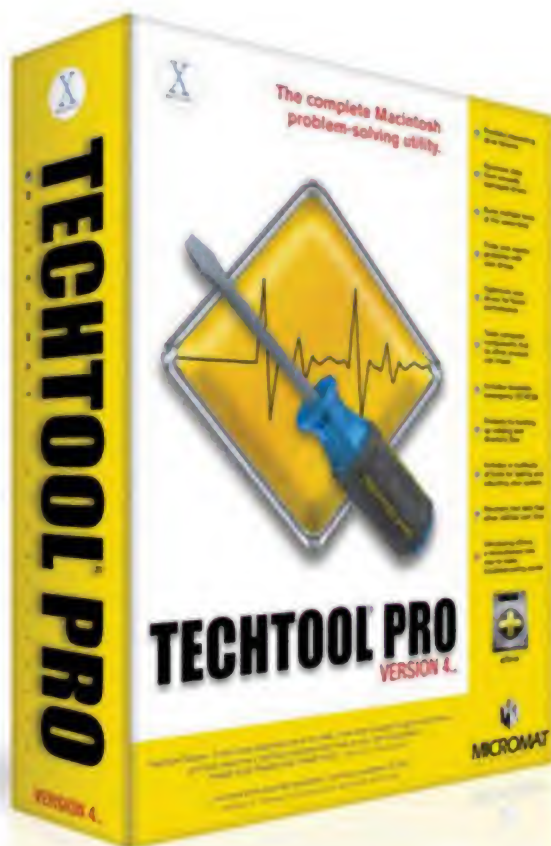


## Diamond Mouse

I'm not really sure what the target market is for a mouse embedded with 59 diamonds, but it requires someone with €18,600 (about \$24,000) to drop on a pointing device that you can get for less than \$10 from your local computer store's bargain bin. The specs on Pat Says Now's pricey input device are pretty standard, but in addition to the two carats of ice, the mouse is also cast in 18 karat white gold. If you've got the cash to spend, head over to [fabstuff.net](http://fabstuff.net), where you can choose between the Scattered Diamond and Diamond Flower patterns ([www.pat-says-now.com](http://www.pat-says-now.com)).—**DAN MOREN**







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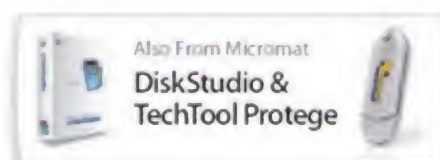
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# Reviews



## Through a Lens Sharply

DSLRs aren't just for professional photographers anymore **BY BEN LONG**

**W**hile today's point-and-shoot and advanced fixed-lens digital cameras produce excellent image quality at very affordable prices, you'll need a digital single-lens reflex (DSLR) camera to get high-quality images and to maintain maximum creative control over your shots. DSLRs are analogous to 35mm film cameras, though there are some very critical differences between the two.

Camera manufacturers now recognize that hobbyists and other nonprofessional shooters have become more serious—and more skilled—at producing a wide variety of photographic images and are demanding more-affordable DSLRs to help them do it. While the \$1,000 DSLR price barrier was broken several years ago, lower-priced cameras with more-extensive features have been released in the past year. If you've

thought of switching to a DSLR, considered upgrading from the one you already have, or wondered what all the DSLR hoopla is about, read on to learn the differences between SLR and point-and-shoot cameras and to check out a review of five of the newest DSLR models: the Canon Digital Rebel XTi, the Nikon D40, the Nikon D80, the Pentax K100D, and the Sony Alpha DSLR-A100K.

### You Say 'SLR,' I Say 'Bigger'

SLR stands for single-lens reflex, and a DSLR uses the same mechanism found in the traditional 35mm film cameras that many pros and amateurs have used for more than 100 years. The viewfinder on an SLR is a *through the lens*, or TTL, viewfinder. Thanks to a complex series of mirrors and prisms, when you look through the viewfinder of an SLR, you are looking through the same lens

that exposes the sensor. When you press the shutter button, a mirror moves out of the way (this is the reflex part) so that the light passing through the lens illuminates the sensor.

A point-and-shoot camera uses its main lens to expose the sensor and a separate lens for its optical viewfinder. If there is no optical viewfinder, then the main lens illuminates the sensor, and the sensor generates the image that the camera's LCD screen shows. Though you could argue that an LCD viewfinder is a TTL viewfinder (it is, after all, looking through the same lens that exposes the image), there's an important difference: in an LCD viewfinder, you're limited to an image generated by the camera's sensor, and that sensor is much less sensitive than your eye. Consequently, you may not be able to see dark shadows and other details that would be visible through an optical viewfinder, making informed exposure decisions difficult.

The reflex mechanism—the series of mirrors and prisms—that enables an SLR to use one lens for both the viewfinder and the exposure requires a fair amount of physical space. Therefore, SLRs tend to be bigger than their point-and-shoot counterparts.

This additional space requirement yields an advantage: it allows camera makers to build cameras that have larger sensors. A larger sensor can hold more pixels than a smaller sensor, and those pixels can be *larger* than on a smaller sensor. Larger pixels provide a better signal-to-noise ratio and allow for images that have less noise and better dynamic range.

### More-Advanced Features

The other obvious difference between a DSLR and a point-and-shoot is that a DSLR usually provides removable lenses. The ability to swap lenses means that you can select a focal length or quality that's appropriate to your needs.

Also, a DSLR often has more-advanced features than you'd find on a point-and-shoot: faster burst rates for shooting images in sequence; speedier playback and navigation; the ability to shoot images in the camera's



Raw format; manual modes that afford you a high degree of creative control; and interfaces and control layouts that let you quickly and easily configure parameters while shooting.

**How It Feels** You shouldn't buy a DSLR without handling it first. The weight, fit, and feel of different DSLRs vary considerably, and what feels great to one user (or reviewer) might seem bulky and awkward to another. Fortunately, all the cameras in this review are readily available in most camera or electronics stores. When test-driving a DSLR, try to assess how easy and intuitive it is to use the following (you might need to ask a salesperson how to access these features):

> **Exposure Compensation** This feature, which lets you adjust the exposure measured by a camera's light meter, is the most common exposure tool that you'll use, so make sure that it's easy to access. Ideally, you want an exposure-compensation control that you can use without taking your eye away from the viewfinder.

> **White Balance** For optimal color representation, you'll want speedy

shutter and aperture priority, a manual mode, and scene modes (sports, sand, and snow, for example). Determine how easy it is to select these modes.

> **Flash Mode** All the cameras in this review have built-in pop-up flashes, as well as hot shoes for adding an external flash. Make sure the camera provides an easy system for changing the flash mode (from fill to automatic to red-eye reduction, for example) and deactivating the flash altogether.

> **Autofocus** Try to assess how quickly the camera focuses and how well it can focus on subjects in very low-contrast environments. This capability is usually lens-dependent, so make sure that you test this feature with the lens you're considering buying.

> **Viewfinder Status Display** Take note of which camera settings are shown inside the camera's viewfinder. Ideally, you want to know shutter speed, aperture, and exposure compensation. If you can get ISO, bracketing, and shots remaining, that's even better.

**Advanced Options** As your photography skills improve, you'll want to start using more-sophisticated shooting and

## A camera doesn't do you any good if you don't have it with you, so make sure that you select a camera you want to use.

access to the camera's white-balance control, which lets you set the kind of light—for example, outdoor or indoor—you're shooting in. You'll also want a camera that provides a manual white-balance option.

> **ISO** These days, even point-and-shoot cameras have adjustable ISOs, which let you make the camera's sensor more sensitive to light. This ability gives you different creative options, but it does so at the cost of noisier images. However, because DSLRs have larger sensors, you can push the ISO higher on a DSLR than you can on a point-and-shoot. And as the ISO goes higher, you'll see less noise. Make sure that your camera has a fast and easy way to adjust ISO.

> **Shooting Mode** Most cameras provide a program (fully automatic) mode,

exposure options. Fortunately, even low-priced DSLRs will include plenty of features that you can grow into. Look for these, specifically the following:

> **Autobracketing** An autobracketing feature will adjust the exposure as you shoot multiple frames, so you can shoot a sequence of images with different exposures. For difficult lighting situations, this can mean the difference between getting and missing the shot.

> **Multiple Light Meters** Most cameras meter by analyzing lots of points in the scene and then averaging them to come up with an overall recommended exposure. Ideally, you want a camera that provides this type of matrix metering (sometimes called segment metering), as well as center-weight metering (which puts

### Canon Digital Rebel XTi



**PROS:** Has a higher resolution than the Digital Rebel XT; good feature set; impressive image quality; good price; 2.5-inch LCD.

**CONS:** Consumer-style build and feel; no dedicated status display.

**PRICE:** body only, \$799; with EF-S 18mm–55mm lens kit, \$899

**COMPANY:** Canon, [www.usa.canon.com](http://www.usa.canon.com)

**MORE INFO:** For a longer review of this product, see [macworld.com/1691](http://macworld.com/1691).



### Nikon D80



**PROS:** Large LCD; impressive image quality; sturdy build; very good in-camera editing features; extensive feature set.

**CONS:** Switching to a Secure Digital card is a hassle for users who have invested in CompactFlash cards.

**PRICE:** body only, \$1,000; with 18mm–135mm DX Zoom Nikkor lens, \$1,300

**COMPANY:** Nikon, [www.nikonusa.com](http://www.nikonusa.com)

**MORE INFO:** For a longer review of this product, see [macworld.com/2337](http://macworld.com/2337).



### Sony Alpha DSLR-A100K



**PROS:** Small; full featured; high-quality images under most conditions; good lens selection; sensor-based stabilization.

**CONS:** Sensor-based stabilization is inferior to lens-based stabilization; lenses are expensive; autofocus mechanism is noisy; images are noisy at ISO 800 and above.

**PRICE:** with 18mm–70mm lens kit, \$900

**COMPANY:** Sony, [www.sony.com](http://www.sony.com)

**MORE INFO:** For a longer review of this product, see [macworld.com/2394](http://macworld.com/2394).







The Canon Digital Rebel XTi and the Sony Alpha DSLR-A100K

more focus on the center of the frame) and possibly a spot meter. These last two options make handling backlit shots easier.

> **Drive Mode** Like the automatic winder on a film SLR, drive mode lets you shoot a series of frames in quick succession—especially useful when you use autobracketing or shoot dynamic, fast-moving subjects. You'll want to assess how easy it is to activate this feature, and how speedy the burst rate is.

> **Histogram Display** The histogram shows you a graph of the distribution of tonal values in your scene, and it's an essential feature for serious exposure work. These days, even point-and-shoot cameras offer histogram displays. When evaluating a DSLR, take note of how easy it is to activate the display, how big a graph it shows, whether it includes highlight-clipping indicators, and whether it offers a three-channel (red, green, and blue) display as an option.

> **Depth-of-Field Preview** When you look through the viewfinder of a DSLR, the camera's iris is open all the way to provide as much light as possible. When you choose an aperture smaller than full wide (which is usually the case) and then take a picture, the camera closes down the iris to the size you've specified. This often has the result of *increasing* the depth of field (the distance at which your subject appears in focus) in your scene. A depth-of-field preview button closes

the iris while you look through the viewfinder, allowing you a preview of the scene's depth of field. As you begin to think creatively about depth of field, this feature can be very helpful.

> **Raw Mode** Shooting in Raw mode (the camera's digital negative format) offers better image quality and far more editing flexibility than the default JPEG modes on many cameras. (For more information about shooting in Raw mode, see "Weighing the Pros of Raw" at [macworld.com/2531](http://macworld.com/2531).)

In addition to assessing a camera's features, you'll want to consider its build quality and overall feel. Some cameras simply feel better and make more sense than other cameras. No matter how high its image quality, a camera doesn't do you any good if you don't have it with you, so make sure that you select a camera you want to use.

## Lenses

You'll need a lens to go with your new camera. All the cameras we looked at for this roundup come in kits that include a decent starter lens. These lenses are small and lightweight, produce good-quality images, and offer focal-length ranges of 18mm to 202mm in 35mm terms—that is, wide to telephoto.

There are many factors that make one lens more expensive than another. Pricier lenses have higher-quality glass, which, for a number of reasons, can yield better sharpness and contrast to

make a nicer-looking image overall. Higher-quality lenses also often allow for a wider maximum aperture. For example, a 3.5 lens has a maximum aperture of f/3.5, while a 1.8 lens has a maximum aperture of f/1.8. A 1.8 lens is considered faster than a 3.5 lens because it gathers light so quickly that it can operate with a very wide aperture.

Faster lenses allow you to shoot in lower light and let you capture images with a shallower depth of field, offering the promise of greater creative control. However, faster lenses are usually larger and almost always more expensive than slower lenses.

Lenses can be grouped into two categories: zoom lenses, which you're already used to from your point-and-shoot camera, and prime lenses, which offer one focal length. Prime lenses are generally faster than zoom lenses and often yield better quality than a zoom lens with an equivalent focal length.

Note that on a zoom lens, the maximum aperture often varies depending on the focal length you've selected. A zoom lens might have an aperture range from f/4 to f/5.6, meaning that it can shoot at f/4 at its widest angle but can manage only f/5.6 at its most telephoto angle.

If you're new to SLR shooting, stick with the kit lens for a while. You can buy new lenses later. With practice, you'll get a better understanding of what you need in a lens. Your lens collection can grow as your photographic skills do.



### Cropping Factor

Because most DSLRs have sensors that are smaller than 35mm, their field of view is narrower than that of a 35mm camera. If you have experience shooting with film cameras, then you're probably used to the idea that a 50mm lens (often called a portrait lens) has about the same field of view as your eye. Longer focal lengths are telephoto (they magnify) while shorter focal lengths are wide angle (they can capture a wider distance in a single shot).

## These cameras pack full feature sets, including program, priority, and manual modes, as well as an ISO range of 100 to 3200.

The field of view that a lens of a given focal length provides depends on the size of the imaging medium (be it film or a digital memory card) that sits on the focal plane. For example, if you were to put a 50mm lens on a digital camera such as the Canon Digital Rebel XTi, you'd have a field of view equivalent to an 80mm lens on a 35mm film camera, because the sensor in the XTi is small enough so that any lens has a 1.6× cropping factor. That is, you should multiply the focal length of any lens you place on the camera by 1.6 to find its 35mm focal-length equivalent.

All the cameras in this review have a cropping factor.

### High-End DSLRs

The \$899 Canon Digital Rebel XTi, the \$1,300 Nikon D80, and the \$900 Sony Alpha DSLR-A100K (all prices include an equivalent kit lens) are similar in size, offer 10-megapixel sensors, have 2.5-inch LCD screens, and have similar approaches to interface design. Also, each company that makes these cameras provides a good lens selection. Each camera is unique in many ways and has its own strengths and weaknesses. (See "Plenty of Room to Grow" for a review of the Nikon D40 and the Pentax K100D cameras.)

These cameras pack full feature sets, including program, priority, and manual modes, as well as an ISO range of 100 to 3200. Raw mode, full white-balance con-

trol, and bracketing and burst features are all present as well.

While these cameras provide built-in pop-up flashes with similar modes and features, they also allow you to add external flashes. Advanced amateur shooters will find that each camera's external-flash system is sufficient, though the Nikon D80 and Canon systems have extra features for people who want high-end multiframe setups.

Each camera also offers a choice of focus and metering modes, so any of

these cameras will give you high-end, professional features.

All of these cameras are well made and sturdy. Of the three, the Nikon D80 is the most comfortable, thanks to the shape of its handgrip and its professional, textured finish. The Sony and the Canon both have cut-rate plastic finishes but are every bit as sturdy as the Nikon D80.

In my hand, the Canon feels the least comfortable, but my hands are a little too big to fit well in the camera's handgrip. Also, with a long lens attached, the camera feels off balance.

While the Sony is slightly more comfortable than the Canon, it's a very noisy camera to operate. The continuous autofocus makes a lot of racket, so you might want to turn it off. Even the regular autofocus and shutter sounds are very loud and tend to clunk. If quiet shooting is critical (such as with distractible children or sensitive wildlife), you'll want to go with the Canon or the Nikon D80—the latter is the quietest of the three.

### Interface

The Sony and the Canon have similar interfaces. Both cameras' rear LCDs have status and menu readouts, and you set most parameters and options through the menu. While this method can be a little slower than dedicated external controls, both companies have done a good job of creating simple navigation and menu layouts that help you easily and quickly configure the features you want.

Offentimes, using the LCD screen as a status display can get in the way of your shooting because you have to turn it off and on. Both the Sony and the Canon have proximity detectors beneath the viewfinder. The detector allows the camera to automatically deactivate the LCD screen when you bring the camera up to your eye, and then reactivate it when you take the camera away. This smart feature greatly streamlines the use of both cameras.

The Nikon D80 has a more professional interface, which features a separate status screen on top of the camera, and dedicated buttons or dials for all the major shooting functions. Obviously, these dedicated controls come at a cost, but there's no comparison when it comes to the ability to quickly change the parameters of a camera: you can work much quicker with the Nikon D80 than with the other two cameras. And with practice, you may find that you can make many adjustments without even looking at the camera.

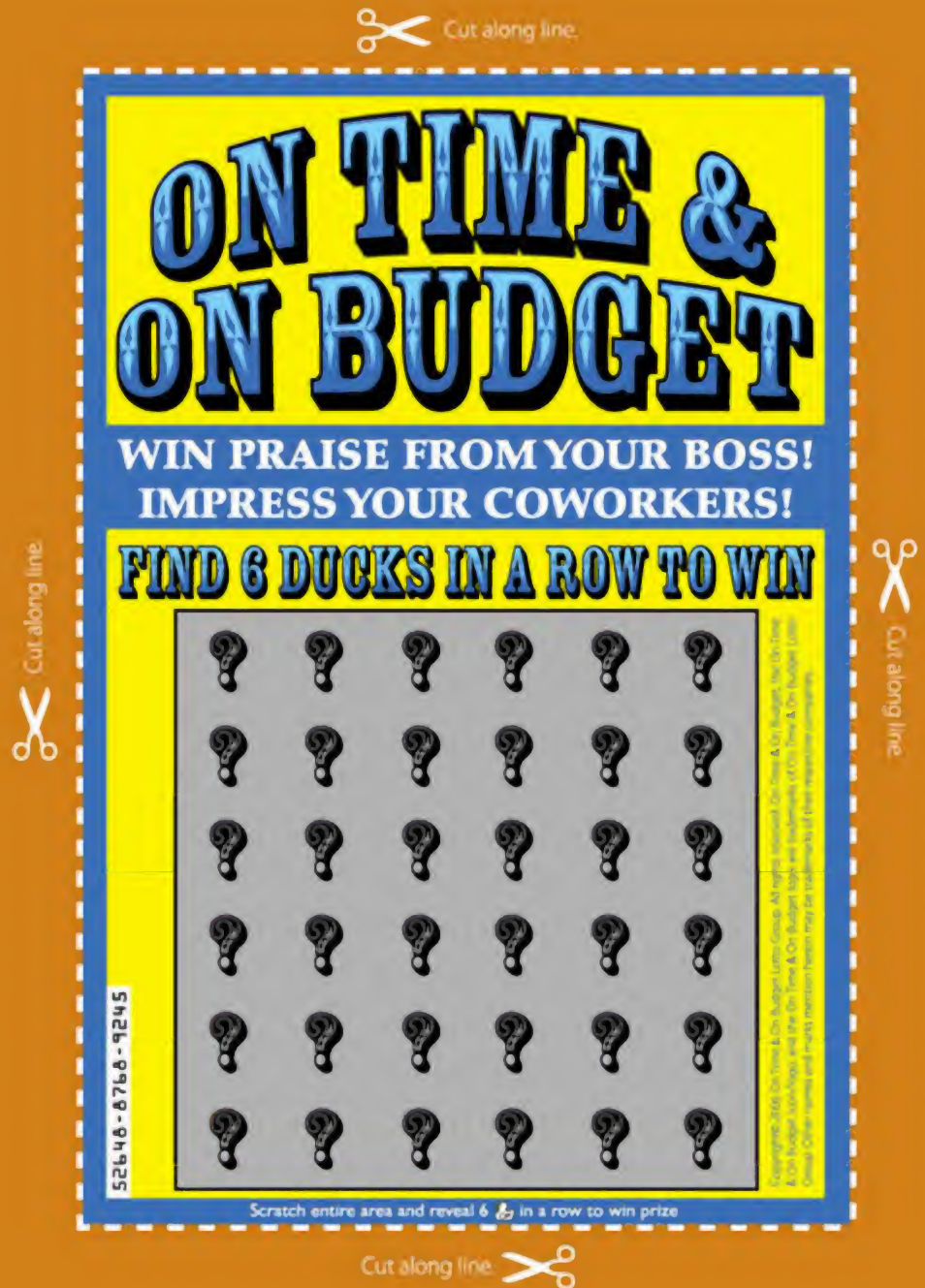
## Should I Keep My Point-and-Shoot?

If you already have a point-and-shoot camera and are planning to buy a DSLR, you may be considering selling your current camera to help finance your new purchase. A better option, though, is to keep it. Point-and-shoots are smaller and easier to carry, so they're ideal for situations in which carrying a DSLR is not possible or necessary.

Also, almost all point-and-shoot cameras provide excellent macro features for extreme close-ups. If you're interested in macro photography, you'll find that working with a point-and-shoot is usually easier and cheaper than investing in a DSLR macro lens. Finally, many point-and-shoots now include excellent movie modes, which make them a great resource for taking short video clips, something you can't do with a DSLR.



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## Plenty of Room to Grow

### Entry-level DSLRs sport high-end features

If \$900 is more than you want to spend for a DSLR, consider these new entry-level offerings: the \$599 Nikon D40 (kit price) is the least expensive DSLR available right now, yet it offers excellent image quality and a good feature set. The \$699 Pentax K100D has one or two extra features, and it, too, delivers great image quality.

Both of these cameras yield 6-megapixel images, which is more than enough to produce high-quality 8-by-10-inch images and even decent enlargements of larger sizes. Both cameras also feature 2.5-inch LCD screens and are almost identical in size and weight.

The Nikon D40 comes packed with all the basic features that any user in this market would want: adjustable ISOs; a Raw mode; scene modes; and all the same image-processing features as the Nikon D80, including D-Lighting. However, there are no bracketing features, and the camera doesn't have a depth-of-field preview button.

The Nikon D40's most innovative feature is its excellent help system. It provides an interactive iris display that helps novices easily understand what will hap-

pen when they make a specific change to their f-stop.

Like the Sony Alpha DSLR-A100K and the Canon Digital Rebel XTi, the Nikon D40 uses its main LCD for status display and parameter selection. However, unlike

those cameras, it lacks a proximity detector, so you'll have to turn the display on and off manually.

Tiny and affordable, the Pentax K100D has a high-end feel, thanks to its dedicated top-mounted status display, which makes changing parameters a little easier than on the Nikon D40.

Like the Sony, the Pentax offers a camera-based stabilization system that yields an effective 1.5 to 2 stops' worth of stabilization on any lens that you use with the camera. Unfortunately, the camera doesn't hold up as well when it comes to battery life. Because the Pentax ships with AA batteries rather than a longer-lasting proprietary battery, it won't give you as many shots per set of batteries as you'd get per battery charge from the other cameras in this review. However, AA batteries have the advantage of ubiquity—you can always find them.

### Macworld's Buying Advice

Both the Nikon D40 and the Pentax have excellent lens selections, and both are fun and comfortable to use. The D40 wins the contest because of its many fine features and strong battery life.

#### Nikon D40



##### PROS:

Affordable; impressive image quality; small; light; full featured; comfortable; solid build with rubberized grip; bright 2.5-inch LCD; helpful information display; built-in help system.

**CONS:** Lower pixel count than most pro-level DSLRs; no top-mounted status display; no depth-of-field preview option.

**PRICE:** with AF-S DX 18mm–55mm lens, \$599

**COMPANY:** Nikon, [www.nikonusa.com](http://www.nikonusa.com)

**MORE INFO:** For a longer review of this product, see [macworld.com/2498](http://macworld.com/2498).



#### Pentax K100D



**PROS:** Small; good build quality; very good image quality; good basic feature set; top-mounted LCD status screen; sensor-based image stabilization; affordable.

**CONS:** Sensor-based stabilization is not as good as lens-based stabilization; images are noisy at ISO 800 and above; poor battery life.

**PRICE:** with 18mm–55mm lens, \$699

**COMPANY:** Pentax Imaging, [www.pentax.com](http://www.pentax.com)

**MORE INFO:** For a longer review of this product, see [macworld.com/1692](http://macworld.com/1692).



### Focusing and Stabilizing

The Sony provides a continuous auto-focus mode that adjusts the focus as you move the camera around. Because the Sony camera is usually one step ahead of you, there's a good chance that it'll already have the correct focus once

you've zeroed in on your shot. One nice thing about Sony's implementation of this feature is that the camera doesn't bother hunting for a focus if you're not looking through the viewfinder. This preserves the battery life and keeps the camera quieter.

The Sony is unique among these three cameras for its use of sensor-based stabilization. To counter the slight vibrations and hand movements that can occur while you hold the camera, the Sony uses motion sensors to detect camera shake, and then counters those motions by



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shifting its image sensor in the opposite direction. The result is an effective stabilization that smooths out jitters and makes framing a shot through a long telephoto lens easier.

Stabilization technology also lets you shoot in low-light situations that would normally be too dark to get a sharp image. Sony says that the camera provides 3.5 stops of stabilization; therefore, you can take sharp handheld shots in situations that would normally require 3.5 more stops of light. In Macworld Lab tests, the stabilization was closer to 1.5 to 2 stops.

Still, this is a nice feature to have, and it works with any lens that you put on the camera. Canon and Nikon don't offer in-camera stabilization, opting instead to build it in to certain lenses. Canon calls its technology Image Stabilization, and lenses with IS in the name have the feature. Nikon brands its technology Vibration Reduction and uses a VR moniker on its stabilized lenses. Both Canon's and Nikon's technologies are much more effective, offering 4 stops of stabilization. While you could argue that lens-based stabilization is inherently inferior because you have to buy specific lenses, you don't need stabilization on wide-angle lenses, and the superior performance of Canon's and Nikon's lens-based mechanisms makes the Sony stabilization less enticing.

Sony released a broad assortment of lenses with its A100K camera, an impressive feat. However, Sony's lens selection pales in comparison to the offerings available for Nikon and Canon cameras. In addition to the lenses made by the camera makers themselves, there are vast assortments of third-party lenses. What's more, Sony's lenses are kind of pricey. You'll have a much greater choice in price and performance with either Canon or Nikon.

### More Features

In addition to the basic features, all three cameras have many more features, ranging from the really cool to the somewhat esoteric. But in a feature-to-feature shoot-out, the Nikon D80 wins hands down, with options such as more flexible auto-bracketing, multiple exposures, the ability to add text comments to an image, and a vast assortment of in-camera image-processing options. The stand-out feature here is Nikon's D-Lighting, which does a great job of brightening an image's shadowy areas without blowing out highlights. For backlit situations, it provides a handy, quick fix.

### Dust to Dust

When you take a lens off an SLR, you expose the mirror and sensor chamber to the outside world, and create the opportunity for dust to get inside the camera

and onto the sensor. Dust will show up in your images as smudges or dark spots. While prevention is the best way to guard against dust, all three cameras offer some additional features to help reduce dust.

The Sony employs the same sensor-moving mechanism that the camera uses for image stabilization to shake dust particles off the sensor. Every time you turn off the camera, the sensor dislodges dust.


Using a similar mechanism, the Canon places a transparent screen in front of the sensor to trap dust; it then vibrates when you turn the camera on or off (or, if you prefer, both).

The Canon and the Nikon D80 also let you create a dust-reference photo. This is basically just a picture of the dust on your image. Through the included software, you can use this reference image later to remove the dust from your images. This is the only dust proofing that the Nikon D80 offers.

These are all welcome features, and I'm glad to see vendors taking the dust problem seriously.

### Macworld's Buying Advice

Based on the spectrum of features and performance, the Nikon D80 is the top pick. Currently it scores highest for feature set, while the Canon offers the smallest size, and the Sony offers built-in image stabilization. However, all three cameras yield excellent images, with enough resolution to easily create large prints or crop and enlarge small sections of shots. If you plan on doing a lot of high ISO shooting, you'll fare better with the Nikon D80 or the Canon Digital Rebel XT*i*. While the Sony Alpha DSLR-A100K does very well up to ISO 400, its pictures start getting too noisy at ISO 800 and above.

The Canon and the Nikon D80 offer near-instantaneous startup and wake-from-sleep functionality, provide zippy playback, and have menu functions. None of these cameras exhibited shutter lag, and their burst rates are all around three frames per second. All three vendors have delivered impressive cameras with high-end features. 

**Ben Long** is the author of *Complete Digital Photography*, third edition (Charles River Media, 2004).

## Digital SLRs: Jury Results and Specs

	Canon Digital Rebel XT <i>i</i>	Nikon D40 	Nikon D80 	Pentax K100D	Sony Alpha DSLR-A100K
<b>PERFORMANCE *</b>					
IMAGE QUALITY	Superior	Very Good	Very Good	Very Good	Good
BATTERY LIFE	Superior	Superior	Superior	Poor	Superior
<b>SPECIFICATIONS</b>					
RESOLUTION	10.1	6.1	10.2	6.1	10.2
FOCAL LENGTH (35MM EQUIVALENT)	28.8mm–88.0mm	18.0mm–55.0mm	27.0mm–202.5mm	27.0mm–82.5mm	27.0mm–105.0mm
BATTERY TYPE	Rechargeable lithium ion	Rechargeable lithium ion	Rechargeable lithium ion	AA	Rechargeable lithium ion
MEDIA/NUMBER OF SLOTS	CompactFlash/1	Secure Digital/1	Secure Digital/1	Secure Digital/1	CompactFlash/1*
SIZE (W × H × D IN INCHES)	5.0 × 3.7 × 2.6	5.0 × 3.7 × 2.5	5.2 × 4.1 × 3.0	5.1 × 3.6 × 2.8	5.3 × 3.8 × 2.9
WEIGHT (IN OUNCES)	18.0	18.4	38.7	30.3	32.5

\* Scale: Superior, Very Good, Good, Fair, Poor. \* Box contains Memory Stick-to-CompactFlash adapter.

The image-quality rating of the camera is based on a panel of judges' opinions in five categories: exposure, color, sharpness, distortion, and overall. Battery-life testers follow a precise script, including shots with and without flash, until the battery dies. — TESTED IN CONJUNCTION WITH THE PC WORLD TEST CENTER.





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**#1**  
**VirusBarrier**

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**#1**  
**bitdefender**

VirusBarrier rated best Mac antivirus by Macworld - BitDefender rated best Windows antivirus by PC World

\* Contains Intego VirusBarrier X4 and BitDefender Antivirus. \*\* Contains Intego VirusBarrier X4, VirusBarrier X4, Personal Antispam X4, and BitDefender Antispam, Firewall, Antispyware, Antispam and Antiphishing. Macintosh, Mac, The Mac logo and Apple logo are registered trademarks of Apple Computer, Inc. BitDefender and the BitDefender logo are registered trademarks of BitDefender. © 2001-2007 Intego, the Intego logo, VirusBarrier, the VirusBarrier logo, Dual Protection, DP and the Dual Protection logo are registered trademarks of Intego. All other brand and product names are or may be trademarks of, and are used to identify products or services of, their respective owners. Intego is not responsible for omissions or errors in typography or photography.



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What we're reviewing online this month

## SOFTWARE

### AccountEdge 2007


**RATING:**  **PRICE:** \$299 **COMPANY:** MYOB

**URL:** [www.myob-us.com](http://www.myob-us.com)

For the last several years, MYOB's AccountEdge has been the most comprehensive accounting application available for the Mac, offering an extensive set of accounting tools and payroll options, time-billing features, and tools for processing credit cards. The latest update is Universal but it has few new features or updates to existing tools. While AccountEdge 2007 is a great accounting application, unless you're currently using an Intel Mac or you plan on purchasing one for your business accounting needs, the program may be an investment you'll want to spend your bucks on next year ([macworld.com/2504](http://macworld.com/2504)).



### Age of Empires III

**RATING:**  **PRICE:** \$55 **COMPANY:** MacSoft

**URL:** [www.macsoftgames.com](http://www.macsoftgames.com)

Age of Empires III takes you back to the European exploration and colonization of the New World, starting during the Age of Discovery and continuing through the Industrial Revolution. It's epic, very involved, and lots of fun. What's more, it's absolutely gorgeous, as long as you have the graphics horsepower to display it accurately. Its lack of support for PC-to-

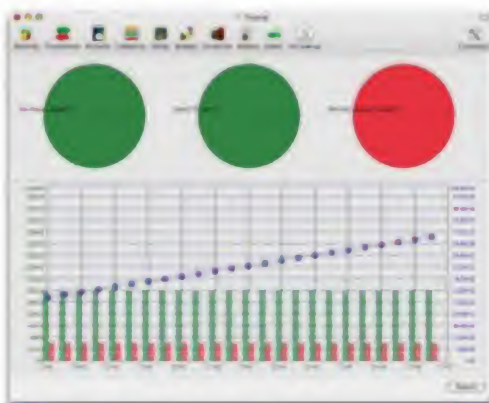
Mac game play is a problem because it excludes a big group of players from playing against one another. That fact is not mentioned anywhere in the game's documentation, so it might be an unpleasant and unwelcome surprise to some gamers. For solo players, Age of Empires III has a lot of different options for varied game play and is by far the best-looking game in the Age of Empires series. It'll keep you busy for weeks, if not months ([macworld.com/2506](http://macworld.com/2506)).

### DiskWarrior 4


**RATING:**  **PRICE:** \$100 **COMPANY:** Alsoft

**URL:** [www.alsoft.com](http://www.alsoft.com)

After a long wait, Alsoft has finally released its Universal version of DiskWarrior. Version 4 optimizes and repairs directories on hard disks, RAID volumes, FileVaults, disk images, and iPods. Over the years, this disk-repair stalwart for Macs has proven to be one of the most reliable utilities for repairing disk-directory problems. With this new version, DiskWarrior continues to provide essential maintenance and repair features, and it may be one of the few programs that every Mac user should own ([macworld.com/2503](http://macworld.com/2503)).



### FinanceToGo 1.1

**RATING:**  **PRICE:** \$45 **COMPANY:** Fast Forward Software


**URL:** [www.fastforwardsw.com](http://www.fastforwardsw.com)

FinanceToGo 1.1 is an accounting software package for business and personal use. It uses double-entry accounting techniques to track income, assets,

debts, and expenses. Double-entry accounting is an attractive feature that is not commonly found in personal finance programs and is usually reserved for more business-oriented accounting. Unfortunately, in its current version FinanceToGo isn't mature enough to be a replacement for more popular personal finance programs. It has a limited number of default transaction categories, lacks adequate documentation, and has limited reporting tools (the program provides only three reports). For people used to the far more robust features found in other

## Tax Time

### TaxCut Premium

**RATING:** 

**PRICE:** \$60

**COMPANY:** H&R Block

**URL:** [www.taxcut.com](http://www.taxcut.com)

H&R Block suspended production of TaxCut for the Mac in 2005, but the company has brought the updated version of TaxCut back, and it is on a par with its competition. TaxCut can import records from Quicken, TurboTax, and older versions of TaxCut, among other accounting applications. It tracks your progress as you enter data, and it prompts you if an answer you give or an amount you enter doesn't add up ([macworld.com/2500](http://macworld.com/2500)).

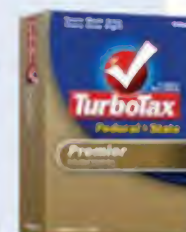


### TurboTax Premier

**RATING:**  **PRICE:** \$75

**COMPANY:** Intuit **URL:** [www.turbotax.com](http://www.turbotax.com)

The latest version of TurboTax offers a friendly interface and an efficient means of wading through your financial waters. It handles your state and federal returns, and takes care of your investments. The application asks you a series of questions and then has you fill in values for details like income and deductions. Despite a few rough interface problems and some IRS collaboration quirks, TurboTax is worth its asking price ([macworld.com/2499](http://macworld.com/2499)).



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apps such as Quicken, FinanceToGo may be a disappointment. Several other accounting programs on the market offer more features and functionality for the same or slightly more money ([macworld.com/2505](http://macworld.com/2505)).



### Maya Complete 8.5

**RATING:** **PRICE:** \$1,999 **COMPANY:** Autodesk **URL:** [www.autodesk.com](http://www.autodesk.com)

Maya 8.5 is a powerful 3-D-modeling, -texturing, and -rendering application, with all the tools you need to do nearly every type of animation imaginable, from simulations of real-world physics to character animation with a wide spectrum of emotive expressions. Maya 8.5 is faster and stabler than its predecessor, and it's full of features. Its steep price makes it a tool for serious users, but few animation packages can match Maya's depth and power ([macworld.com/2502](http://macworld.com/2502)).



### SketchFighter 4000 Alpha

**RATING:** **PRICE:** \$20 **COMPANY:** Ambrosia Software **URL:** [www.ambrosiasw.com](http://www.ambrosiasw.com)

If you spent any part of your middle-school tenure doodling in the blank pages of a notebook, creating elaborate battle scenes with a spacecraft shooting laser beams at some bug-eyed alien enemies, SketchFighter 4000 Alpha is for you. It puts you in the cockpit of a spaceship as you navigate the treacherous caverns of a hostile alien menace. It features primitive-

looking two-dimensional graphics—seemingly drawn with a felt-tip pen on graph paper—but don't confuse the hand-drawn style of the game with simplistic game mechanics. SketchFighter uses a robust OpenGL-based graphics engine that smoothly renders the game. It even comes complete with its own built-in online chat service to help you locate other players. SketchFighter 4000 Alpha is a retro joy and is sure to become an instant classic ([macworld.com/2507](http://macworld.com/2507)).

### HARDWARE

#### DRX-830UL-T

**RATING:**

**PRICE:** \$130

**COMPANY:** Sony

**URL:** [www.sony.com](http://www.sony.com)

Macs keep getting faster, but disc burning remains a delicate process: to avoid ruining a CD or DVD, your safest bet is to minimize computer activity while you burn the disc. This, of course, means that you'll experience downtime while you wait for the process to finish. With blazing maximum burn rates, Sony's external DRX-830UL-T won't leave you twiddling your thumbs for too long. It's the fastest external CD/DVD rewritable drive we've tested, and it consistently produced reliable discs, even at its fastest burn speeds. Whether you're backing up data or mass-producing an independent movie, you can't ask for much more out of an external disc burner ([macworld.com/2510](http://macworld.com/2510)).



#### iSuperCharger

**RATING:** **PRICE:** \$40 **COMPANY:** Van Hauser **URL:** [www.ipodsupercharger.com](http://www.ipodsupercharger.com)

There are scores of car chargers, home chargers, USB chargers, and even battery chargers for the iPod, but the iSuperCharger is the first to combine all four into a single product. It includes an accessory-jack plug for your car on one end, a USB plug on one side, a 9-volt battery connector on the other side, and a flip-out no-volt household outlet plug on the back. However, the cables are a bit short. The iSuperCharger won't charge third-generation iPods, but it works well with all subsequent iPod models ([macworld.com/2529](http://macworld.com/2529)).

#### Luna

**RATING:** **PRICE:** \$150

**COMPANY:** Xtreme-

Mac **URL:** [www.xtrememac.com](http://www.xtrememac.com)

As alarm clocks go, the Luna is pricey, but it offers more than other iPod alarm clocks. It has an attractive design, an innovative menu system, and good sound quality. Unfortunately, the reception isn't great compared with other clocks we've tested, and the radio can be a hassle to tune. You don't have to be a hard-core radio listener to appreciate what a significant step forward the Luna is in the evolution of iPod clock radios. ([macworld.com/2528](http://macworld.com/2528)).



#### LP3065

**RATING:**

**PRICE:** \$1,899

**COMPANY:** Hewlett-Packard

**URL:** [www.hp.com](http://www.hp.com)

It has been two and a half years since Apple introduced its 30-inch Cinema HD Display. At the time, its price put it far out of the mainstream Apple fan's reach, making the display the ultimate Mac status symbol. But now there's competition. The LP3065 boasts the same almost intimidating screen size and resolution, while adding height adjustment and subtracting from the Apple monitor's sticker price. If you think big is beautiful, check out the LP3065 wide-screen LCD ([macworld.com/2509](http://macworld.com/2509)).



#### Showcase Nano

**RATING:** **PRICE:** \$33 **COMPANY:** Contour Design **URL:** [www.contourcase.com](http://www.contourcase.com)

The Showcase nano provides very good shock and scratch protection, while letting you show off your iPod's good looks. The halves of the Showcase nano close, clamshell-style, and lock together via a sliding latch, and the case comes with a rotating belt clip. Although the bottom of the nano isn't flush with the bottom of the case (you'll need to remove the iPod to use many dock-connector accessories, and headphones with large plugs don't fit), you can use Apple's dock cable while your nano is in the case ([macworld.com/2530](http://macworld.com/2530)).



# Top Products

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## Color Laser Printer

### C6100dn

**RATING:**  **PRICE:** \$1,102 **COMPANY:** Oki Data **URL:** [www.okidata.com](http://www.okidata.com)

The Oki C6100dn produces great-looking prints, and it includes built-in duplexing. It has easy network connectivity and quick printing speeds ([macworld.com/1670](http://macworld.com/1670)).



## Ink-Jet Photo Printer

### Stylus Photo R340

**RATING:**  **PRICE:** \$200 **COMPANY:** Epson **URL:** [www.epson.com](http://www.epson.com)

The Epson Stylus Photo R340 prints the best color photos in its class, and it reproduces shadow detail extremely well ([macworld.com/0948](http://macworld.com/0948)).



## Multifunction Ink-Jet

### Photosmart C7180

**RATING:**  **PRICE:** \$400 **COMPANY:** Hewlett-Packard **URL:** [www.hp.com](http://www.hp.com)

The HP Photosmart C7180's features, connection options, and solid print and scan quality make it a fine fit for people who want a good all-around color ink-jet MFP ([macworld.com/2475](http://macworld.com/2475)).



## Multifunction Laser




















### AcuLaser CX11NF

**RATING:**  **PRICE:** \$800 **COMPANY:** Epson **URL:** [www.epson.com](http://www.epson.com)

This device has it all: it's a color laser printer,



## MACS


PRODUCT	PROCESSOR	DISPLAY	RATING	FIND CODE <sup>a</sup>	BEST PRICE <sup>b</sup>	SPEEDMARK 4.5 SCORE <sup>c</sup>
<b>DESKTOP</b>						
<b>iMac</b> 	Intel Core 2 Duo/1.83GHz	17 inches		1727	\$895	 202
	Intel Core 2 Duo/2GHz	17 inches		1728	\$1,119	 232
	Intel Core 2 Duo/2.16GHz	20 inches		1729	\$1,402	 245
	Intel Core 2 Duo/2.16GHz	24 inches		1730	\$1,871	 245
<b>Mac mini</b> 	Intel Core Duo/1.66GHz	not included		1731	\$558	 152
	Intel Core Duo/1.83GHz	not included		1732	\$699	 165
<b>Mac Pro</b> 	Intel Xeon/ two dual-core 2.66GHz	not included		2489	\$2,199	 299
<b>PORTABLE</b>						
<b>MacBook</b> 	Intel Core 2 Duo/1.83GHz	13 inches		2387	\$1,042	 168
	Intel Core 2 Duo/2GHz	13 inches		2388	\$1,220	 178
	Intel Core 2 Duo/2GHz (black)	13 inches		2389	\$1,400	 173
<b>MacBook Pro</b> 	Intel Core 2 Duo/2.16GHz	15 inches		2340	\$1,832	 209
	Intel Core 2 Duo/2.33GHz	15 inches		2341	\$2,266	 226
	Intel Core 2 Duo/2.33GHz	17 inches		2342	\$2,525	 211

<sup>a</sup> Typing in find codes after [macworld.com](http://macworld.com) directs you to a product's respective review or overview. For example, [macworld.com/2489](http://macworld.com/2489) contains an overview for the 2.66GHz Mac Pro. <sup>b</sup> From a PriceGrabber survey of retailers as of February 14, 2007. <sup>c</sup> Speedmark 4.5 is Macworld Lab's standard test tool for benchmarking systems running Mac OS X 10.4 (Tiger). For information on Speedmark testing, go to [www.macworld.com/speedmark](http://www.macworld.com/speedmark).

a sheet-fed scanner, a copier with networking capabilities, and a fax machine ([macworld.com/1669](http://macworld.com/1669)).

## Compact Photo Printer

### PictureMate Flash PM 280

**RATING:**  **PRICE:** \$300 **COMPANY:** Epson **URL:** [www.epson.com](http://www.epson.com)

The PictureMate Flash PM 280 offers

the best-looking 4-by-6-inch borderless photos of all the portable photo printers we tested, and it prints them faster ([macworld.com/2396](http://macworld.com/2396)).



## Digital SLR

### 8-MEGAPIXEL DIGITAL SLR EOS Digital Rebel XT

**RATING:**  **PRICE:** \$899; with lens, \$999 **COMPANY:** Canon **URL:** [www.canon.com](http://www.canon.com)



Top Products are those we've recently reviewed in a comparison of like products. As new products become available, we'll update the list. For longer reviews of these products and for other product recommendations, go to [macworld.com/reviews](http://macworld.com/reviews). All prices are as rated. For the best current prices, go to [macworld.pricegrabber.com](http://macworld.pricegrabber.com). All products were available as of January 23, 2007.



The Digital Rebel XT's feature set, image quality, and price, combined with the vast assortment of available Canon mount lenses, make it the best choice in the sub-\$1,000 digital SLR market ([macworld.com/0535](http://macworld.com/0535)).

## Digital Camera

### FinePix E900

**RATING:**   
**PRICE:** \$410  
**COMPANY:** Fujifilm  
**URL:** [www.fujifilm.com](http://www.fujifilm.com)



The 9-megapixel FinePix E900 produces attractive images, with vivid, accurate colors and exposures, in a variety of lighting situations ([macworld.com/1523](http://macworld.com/1523)).

## MiniDV Camcorder

### PV-GS500

**RATING:**   
**PRICE:** \$1,000  
**COMPANY:** Panasonic  
**URL:** [www.panasonic.com](http://www.panasonic.com)



The PV-GS500 is a fine piece of equipment: it offers great control, excellent video quality, and broad operational flexibility ([macworld.com/1673](http://macworld.com/1673)).

## Flatbed Scanner

### CanoScan 9950F

**RATING:**   
**PRICE:** \$399  
**COMPANY:** Canon  
**URL:** [www.canon.com](http://www.canon.com)



Offering superior scan quality and an intuitive software interface, the CanoScan 9950F has been a top pick that's tough to compete with ([macworld.com/0188](http://macworld.com/0188)).

## Large LCD

### LP2465

**RATING:**   
**PRICE:** \$799  
**COMPANY:** Hewlett-Packard  
**URL:** [www.hp.com](http://www.hp.com)



The LP2465 is an affordable and flexible 24-inch desktop LCD with a 16:10 wide-screen aspect ratio that immediately makes one think of the cinema ([macworld.com/2508](http://macworld.com/2508)).

## Medium LCD

### MultiSync 2190UXi

**RATING:**   
**PRICE:** \$1,500  
**COMPANY:** NEC  
**URL:** [www.necdisplay.com](http://www.necdisplay.com)




This 21-inch display doesn't come cheap, but graphics pros will love the NEC MultiSync 2190UXi's vivid and accurate colors and wide viewing angle ([macworld.com/1445](http://macworld.com/1445)).

## FireWire Drives

### DESKTOP DRIVE

#### G-Drive Q 500GB

**RATING:**   
**PRICE:** \$559  
**COMPANY:** G-Technology  
**URL:** [www.g-technology.com](http://www.g-technology.com)




The G-Drive Q SATA hard drive has nearly every type of connection you could want. It operates without a fan, so the G-Drive Q is very quiet—you

hear only the occasional spin of the drive ([macworld.com/1622](http://macworld.com/1622)).

### PORTABLE DRIVE

#### Rocbit 2B

**RATING:**   
**PRICE:** \$230  
**COMPANY:** Rocsecure  
**URL:** [www.rocsecure.com](http://www.rocsecure.com)



The Rocbit 2B, with 40-bit encryption, is well worth its cost if security is a concern ([macworld.com/1443](http://macworld.com/1443)).

## Dual-Layer DVD Burner

### d2 DVD-RW with LightScribe

**RATING:**   
**PRICE:** \$189  
**COMPANY:** LaCie  
**URL:** [www.lacie.com](http://www.lacie.com)



In addition to being one of the latest and fastest drives for burning DVDs, the LaCie d2 features LightScribe, a cool disc-labeling technology ([macworld.com/2263](http://macworld.com/2263)).

## iPODS

PRODUCT	CAPACITY	RATING	BEST PRICE*	DISPLAY	BATTERY LIFE	MEDIA SUPPORTED	FIND CODE*
 iPod	30GB		\$205	2.5-inch color	14 hours of music playback; 4 hours of slide shows with music; 3.5 hours of video playback	Music, photos, album art, video, games	<b>2233</b>
 iPod	80GB		\$325	2.5-inch color	20 hours of music playback; 6 hours of slide shows with music; 6.5 hours of video playback	Music, photos, album art, video, games	<b>2234</b>
 iPod nano	2GB		\$60	1.5-inch color	24 hours of music playback; 5 hours of slide shows with music	Music, photos, album art	<b>2235</b>
 iPod nano	4GB		\$160	1.5-inch color	24 hours of music playback; 5 hours of slide shows with music	Music, photos, album art	<b>2236</b>
 iPod nano	8GB		\$210	1.5-inch color	24 hours of music playback; 5 hours of slide shows with music	Music, photos, album art	<b>2237</b>
 iPod shuffle	1GB		\$69	N/A	12 hours of music playback	Music	<b>2238</b>

\*From a PriceGrabber survey of retailers as of February 14, 2007. \*Typing in find codes after [macworld.com](http://macworld.com) directs you to a product's respective review or overview. For example: [macworld.com/2233](http://macworld.com/2233) contains an overview for the 30GB iPod video.



# Mac Gems


Get more and expanded reviews at [macworld.com/macgems](http://macworld.com/macgems) BY DAN FRAKES



**Shuffle Adapter** The IncipioBud is the perfect portable companion for your 2G iPod shuffle.

## IPOD ACCESSORY

# IncipioBud

**RATING:**  **PRICE:** \$6 **COMPANY:** Incipio Technologies **URL:** [www.incipiodirect.com](http://www.incipiodirect.com)

One of the great features of Apple's second-generation (2G) iPod shuffle is its tiny profile. At two-thirds the size and weight of the original shuffle, it's one of the smallest media players in the world.

But this smaller size has drawbacks. Part of the original shuffle's beauty was that it looked and functioned just like a USB thumb drive, thanks to the built-in USB plug; you could even use it that way, storing data files on the shuffle and plugging it into any computer's USB port to access the data. A USB plug wouldn't fit on the 2G shuffle; instead, the new shuffle features a unique all-in-one headphone jack that handles audio, power, and data. But to use that jack, you need to carry a small docking cradle that connects to your computer's USB port

via a long cable. This cradle is convenient for home use, but it's a step backward when it comes to the shuffle's portability.

Thankfully, there's Incipio's IncipioBud. Barely larger than a standard USB plug, the 0.2-ounce IncipioBud features a USB plug on one side and a connector for the 2G shuffle's headphone jack on the other; the shuffle connector offers the same data and power connections as Apple's dock. Plug the IncipioBud into your 2G shuffle's headphone jack, and then insert the USB plug into a USB port on your computer; your shuffle will appear in iTunes for syncing and charging. And if you have your shuffle set up with disk use enabled, your Incipio-attached shuffle will appear as a data drive in the Finder. In my testing, the speed of syncing and file transfers through the IncipioBud was

similar to the speed of using Apple's shuffle cradle.

The IncipioBud also makes the 2G shuffle compatible with USB chargers, such as Apple's USB Power Adapter. Unfortunately, the IncipioBud doesn't transfer audio from the shuffle to the USB plug, so it isn't compatible with USB audio accessories for the original shuffle.

## AUDIO

# ProfCast 2.0

**RATING:**  **PRICE:** \$30 **COMPANY:** Humble Daisy **URL:** [www.profcast.com](http://www.profcast.com)

If you've ever given a Keynote or PowerPoint presentation, you've likely received the following request: "Can I have a copy of your slides?" But what the person probably wanted was your entire presentation. Unfortunately, it's tough to give someone that; you'd need to videotape the session, transfer the video to an application such as iMovie, and then convert the file to a video format that people can watch on a computer or TV.

Humble Daisy's ProfCast 2.0 is an appealing alternative. ProfCast lets you create a podcast of your presentation—a podcast that includes your slides. To get started, you drag your Keynote or PowerPoint presentation file into the ProfCast window. Then you choose your microphone input preference—built-in or external. When you click on Start Recording, your slides will open in Keynote or PowerPoint and start playing, and you can begin speaking. You can record live presentations, or you can create recordings at home or at the office.

After you finish your presentation, click on the Stop Recording button and then the Publish button, which gives you several options: you can use ProfCast's Publishing Assistant to publish your presentation as part of a series of enhanced podcasts (ProfCast even generates a proper RSS feed in the process); you can send your audio recording, slides, and synchronization information



# Promising Prospect: TiVoDecode Manager

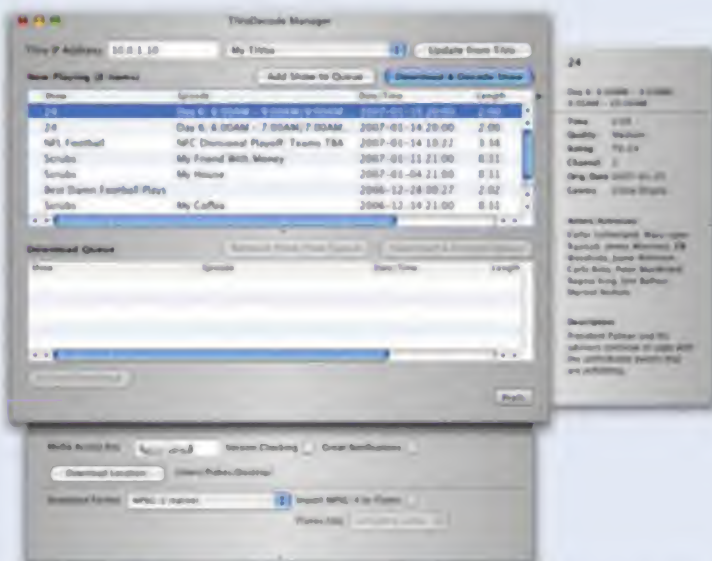
Although Roxio's recently released Toast 8 has brought—at long last—official support for TiVoToGo to the Mac, it's relatively pricey, and if all you want is the ability to watch TiVo-recorded shows on your Mac or iPod, it may be overkill. An economical alternative is David Benesch's TiVoDecode Manager 2.1 (free; [thebenesch.com/tm/](http://thebenesch.com/tm/)).

After the TiVoDecode Manager app connects to your TiVo over your local network, you'll see the TiVo's contents. Select a show and click on the Download & Decode Show button; the show will immediately be downloaded to your Mac and then converted to a format playable on your Mac or iPod.

TiVoDecode Manager can convert shows to MPEG-2 or MPEG-4 format. MPEG-2 requires no actual conversion, so the process is faster, but the resulting files aren't playable in QuickTime or iTunes; you'll need to use an app such as VLC or MPlayer, or use a utility such as VisualHub to convert the files. MPEG-4 conversion takes more time but produces video files that QuickTime and iTunes, as well as any video-capable iPod, can play; you also get more options of size and media quality, and TiVoDecode Manager can automatically import MPEG-4 videos into iTunes for you. (Both conversion choices are quite slow, especially if your TiVo is networked wirelessly.)

TiVoDecode Manager is a work in progress. For example, you can't customize encoding quality or settings, audio and video were occasionally (but rarely) out of sync in my testing, and I experienced

some dropouts that stopped the download process without notifying me—TiVoDecode Manager thought it was still downloading, but it never finished. Still, the early version I've been using has let me take my TiVo-recorded shows with me on my MacBook Pro and iPod, and that's something I've been wanting to do for a long, long time.



**TiVoDecode Manager** Move your favorite TiVo shows to your Mac.

to GarageBand, where you can edit the podcast and publish it; you can send an enhanced podcast to iWeb for inclusion in an iWeb-created blog; you can create an enhanced podcast file and save

it to disk without actually publishing it; or you can save your ProfCast project to your hard drive and work on it later.

Whichever option you choose, the resulting file will contain your presentation audio as the podcast's audio track and your Keynote or PowerPoint slides as chapter art; each slide, with its accompanying audio, becomes a separate chapter in the podcast. Anyone viewing the presentation in iTunes or on an iPod will see the chapter art change just as if you were skipping to the next slide while giving the presentation. And viewers can use iTunes' Chapters menu (which appears only when you play enhanced podcasts) or the iPod's chapter-skip feature to quickly skip to any slide; audio will automatically jump to match it. (Unfortunately, slide transitions and builds are not preserved; you see the final, post-build version of each slide.) ProfCast even gives you the option of using full-size versions of your slides as chapter art; this is a great feature, as it means that your viewers can—using iTunes' full-screen chapter-art mode—see your slides at full size; the only downside is that the resulting podcast file is significantly larger in size.

Another handy ProfCast feature is the ability to take screenshots while recording a presentation. For example, you may want to briefly exit your slide show in order to demonstrate a piece of software; the screenshot feature allows you to show your podcast audience what you did. The resulting image is automatically inserted into the podcast as chapter art for a new chapter.

ProfCast is not without glitches. For example, the program refused to publish one particular PowerPoint presentation. Repeatedly closing a ProfCast recording and then opening a new one (because I kept making mistakes while speaking) resulted in ProfCast failing to save any audio. And I couldn't get ProfCast's Web-link feature—which lets you include live Web links in your chapter-art slides—to work properly. Still, ProfCast is a clever utility that's easy to use and produces high-quality results. ☒

**Dan Frakes** is a senior editor at *Macworld* and the senior reviews editor at *Playlistmag.com*. Send your thoughts on this column, or on things you'd like to see in future columns, to [macgems@macworld.com](mailto:macgems@macworld.com).



**Presentation Publisher** ProfCast lets you turn your Keynote or PowerPoint presentations into enhanced podcasts.



How new laptop designs and faster wireless speeds are changing the face of mobile computing



# Macs on the

**I**t's never been a better time to be a fan of Mac laptops. More than 60 percent of the Macs sold in the past nine months have been MacBooks. And at January's Macworld Expo, the very first commercially available tablet Mac hit the scene. To top it all off, Apple unveiled a new wireless base station that is *five times* faster than the previous AirPort Extreme technology.

Macworld's Jonathan Seff and Dan Frakes explain what these technologies mean for Mac users. Jonathan

spent several days with a preproduction version of the ModBook, a MacBook converted into a laptop the likes of which you've never seen before. And Dan took the new AirPort Extreme Base Station for a lengthy test-drive.

Don't fret if you're not yet part of the burgeoning laptop revolution. Frequent contributor Kirk McElhearn has tips that will help you go completely mobile once and for all.

PHOTOGRAPHY BY PETER BELANGER





# Move

We especially thank the **Canvas Gallery** in San Francisco for use of its location.

**The ModBook**  
PAGE 48

**AirPort Extreme**  
PAGE 52

**Life on the Road**  
PAGE 56



BY JONATHAN SEFF

# The ModBook

Modified MacBook brings tablet computing to the Mac

**E**ver since the arrival—and departure—of the Newton in the 1990s, a small but vocal group of Mac users has clamored for a tablet Mac. Thus far, their pleas have fallen on deaf ears at Apple, leaving tablet enthusiasts to take matters into their own hands with expensive and time-consuming Mac modifications. But now two companies have teamed up to create a product that may finally satisfy Mac users who don't have the cash or time to spend on building a tablet of their own.

Axiotron ([www.axiotron.com](http://www.axiotron.com)) and Other World Computing ([www.macsales.com](http://www.macsales.com)) have unveiled the ModBook—a pen-sensitive Mac that comes with special hardware and software but no mouse or keyboard. Instead, you use the included digital pen to enter text and control applications.

The first ModBooks won't be available until April, but *Macworld* got a

hold of a preproduction model. Although specs for the shipping version have been set (see "The Basics"), many electronic, software, and cosmetic changes will likely be made before the ModBook ships.

## What It Is

The ModBook is a stock Apple MacBook that has been given a radical makeover by Axiotron (it's sold exclusively on a build-to-order basis by OWC). So the system's insides are basically the same as the MacBook's—though its outside has undergone some drastic changes.

Axiotron removes the top of the MacBook—including the display—and replaces it with a bezel made of an aircraft-grade magnesium alloy. (It has a silver, MacBook Pro look to it.) In place of the MacBook's LCD screen, Axiotron installs a new display with the same 13.3-inch size and 1,280-by-800-pixel resolution as the original. The new display uses ForceGlass, which has been chemically strengthened and etched for improved longevity, scratch resistance, writing sensation, and reflection. It features a wider viewing angle than the MacBook's screen and has a 500:1 contrast ratio (versus 400:1 on the MacBook's display).

Even with these changes, the ModBook matches the MacBook's 5.2-pound weight; the tablet is .08 inches thicker. Since the bottom half of the ModBook is a MacBook, the ports—a MagSafe power port, a Gigabit Ethernet port, a mini-DVI output connector, a FireWire 400 port, two USB 2.0 ports, a combined optical-digital audio-input port, a combined optical-digital audio-output port, built-in speakers, and a security slot—are unchanged.

There's no cover for the ModBook's screen, but it seems sturdy and strong.

Still, you'll probably want to get a sleeve for it.

I couldn't rotate the image on the preproduction ModBook's display from landscape to portrait mode—Apple's built-in hardware supports screen rotation for external displays but not internal ones. Axiotron is working on a software patch that should allow this by the time the ModBook ships.

## How It Works

Axiotron has mounted a Wacom Penabled sensor underneath the ModBook's display—this is where the magic happens. The sensor's resolution is 20 times higher than the display's, and positioning is updated 133 times per second; it also features 256 levels of pressure sensitivity. (In contrast, Wacom's high-end Cintiq tablets have 1,024 levels of sensitivity and up to 1,600 by 1,200 pixels of resolution in a 21-inch display.)

The ModBook's included pen is powered by the tablet's digitizer board—it doesn't require a battery of its own, and it's activated only when you bring it within an inch or so of the display. The pen has two programmable side buttons, and its top functions as an eraser. On the bottom left of the ModBook is a slot that holds the pen when it's not in use. Placing the pen in the slot turns the digitizer board off to prolong battery life (although this doesn't put the ModBook to sleep).

Also under the hood is the ModBook Controller Board, which is like the motherboard for the ModBook section of the computer. It uses USB 2.0 as its internal system bus and as its interface with the MacBook. It controls power

## The Basics

There are three ModBook models available. The \$2,279 version features a 1.83GHz Core 2 Duo processor; GMA 950 graphics; 512MB of 667MHz DDR2 SDRAM; a 60GB, 5,400-rpm hard drive; a CD-RW and DVD-ROM Combo drive; an Apple Remote; and built-in AirPort and Bluetooth wireless technology. The \$2,579 offering bumps those specs up with a 2GHz processor, 1GB of RAM, an 80GB hard drive, a DVD-burning SuperDrive, and a built-in WAAS-enabled GPS receiver. For \$2,849, you can order that configuration but with 2GB of RAM and a 160GB hard drive.



Check out our video of the ModBook in action at [macworld.com](http://macworld.com)

2514



management and connects the ModBook's components with the functions of the underlying MacBook.

Axiotron doesn't discard the MacBook's built-in iSight camera when it removes the top of the laptop. Instead, the company integrates it into the design by installing it in the center of the ModBook's bezel, right above the screen. The front of the ModBook features two buttons at the far left—the ModKey, which will reset the ModBook Controller Board without restarting the computer, and a power key, which works like the power button on a MacBook. Next to those buttons are three color status-indicator lights: the top, green light brightens when the digitizer board detects the pen; the middle light (blue now, though it may be yellow on the final version) shows that the ModBook Controller Board is working; and the bottom, red light

shows the status of the ModBook's GPS module.

That's another significant change to the MacBook—some ModBook models will include a GPS module and a menu item that displays your current longitude and latitude. Because the ModBook's metal case blocks wireless signals, the top of the case has two areas of MacBook-like plastic, underneath which Axiotron has placed an array of antennas for Wi-Fi, Bluetooth, and—on models that include the module—GPS.

### How It Performs

MacBook owners will find their time with the ModBook both strangely familiar and just plain strange. Take the simple act of carrying it around—cradling the ModBook in my arm felt quite different from walking around holding the MacBook like a tray. At the same time, the ModBook's weight

and size felt natural in my hands. The tablet definitely got pretty warm with use, but no warmer than my MacBook.

The most obvious difference between the ModBook and a MacBook is the way you input information into the computer. Some tablet PCs have a screen that flips over to reveal a keyboard, but there's no such input device here. All typing and navigation must be done with the pen. The screen isn't touch-sensitive, so you can rest your hand on it while using the pen—but this also means that the ModBook is useless without the pen. (OWC will offer replacement pens, though it hadn't set pricing at press time.)

There are two ways to input data with the pen—handwriting recognition and an on-screen keyboard (see "Data Input"). The first draws upon OS X's Inkwell technology. You open a window (either by choosing Show Ink Window from Ink's menu-bar item or selecting

## Meet the ModBook





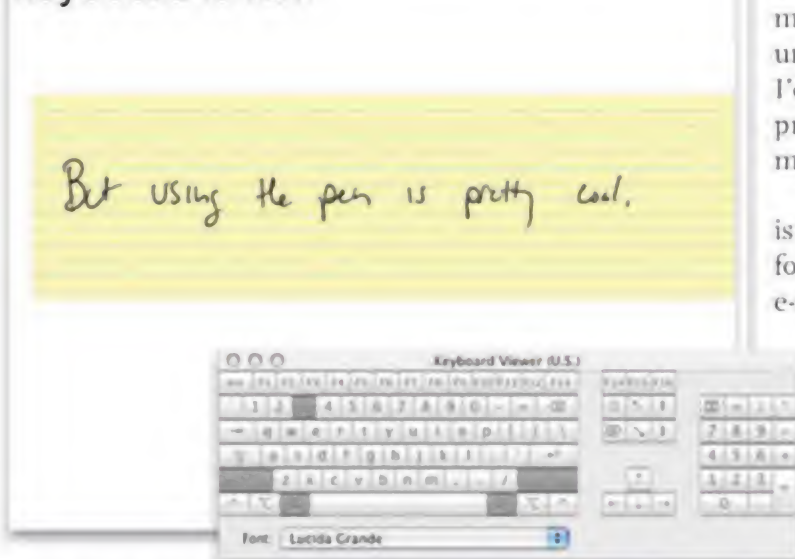
Show Ink in the Ink preference pane) in which you use the pen to write. After you're done writing, you wait for your scribbles to be translated, make corrections, and then click on Send to transfer what you've written to the active application.

Another handwriting method, the Write Anywhere feature, is activated via a menu-bar item or the Allow Me To Ink In Any Application option in the Ink preference pane. Write Anywhere lets you start writing on the screen; when Ink senses a pause, it sends the input to whatever app you're in. On the plus side, Write Anywhere doesn't confine you to writing in a specific window; the drawback is that it doesn't give you the same ability to fix your text before sending it off.

The Gestures tab in Ink's preference pane gives you shortcuts for commands such as Cut, Copy, Paste, Tab, Return, and Delete. These gestures are odd squiggles, but tapping on one shows an animation of drawing it out, so you can see how they're made.

The second way to input text is to use an on-screen keyboard such as OS X's built-in Keyboard Viewer. Tapping out sentences a letter at a time feels more like using a cell phone than using a computer—but I found that it was more accurate (and faster) than handwriting recognition. Third-party virtual keyboards make data entry even easier.

## Entering text with an on-screen keyboard is fun.



**Data Input** The ModBook lets you enter data in two different ways—via handwriting-recognition technology or an on-screen keyboard.

## Stand Up, ModBook

The ModBook can play DVDs, and the included Apple Remote lets you access other multimedia content through Front Row. But placing the tablet on your lap or propping it up on a desk isn't the best way to enjoy your photos, music, and movies. Although the ModBook doesn't come with a stand, Axiotron has built several mounting points into the shell, for use with future add-ons. The company has already completed work on a VESA-compatible Kiosk Mount. (VESA is a standard for mounting displays.) It's working on both a quick-release Desktop Mount that can be installed on a VESA arm, and a Travel Mount with a fold-out stand that can prop up the ModBook on a desk or mount it on the back of an airplane seat or car seat. Other designs are in the planning stages. Prices haven't yet been announced.

AssistiveWare's \$59 TouchStrokes and \$299 KeyStrokes ([www.assistiveware.com](http://www.assistiveware.com)) were both loaded on my test unit, and they offer many helpful features that Keyboard Viewer doesn't, like customization and word prediction. It isn't clear yet whether either app will ship on the ModBook, but Axiotron says it plans to bundle some software with the final version.

Of course, if neither handwriting technology nor an on-screen keyboard appeals to you, you could always go the old-fashioned route, with a keyboard and mouse plugged into one of the ModBook's USB ports. You could also connect wireless input devices via Bluetooth. Having those input devices handy may be a useful crutch for some people trying to get used to the Mod-

Book—I had some trouble with typing accurately during the short time I had my preproduction unit. I'm sure that I'd get better with practice, but it's a major transition.

Then again, this isn't a machine built for writing lengthy e-mails or composing Word documents. It's aimed squarely at creative pursuits. Running Photoshop and other graphics apps on the ModBook is

much more pleasurable; anyone who uses a pen-based tablet with such apps will likely have little trouble adapting to the ModBook. And these folks are the users who'll most enjoy this product—it's definitely not a Mac for everyone.

Watching a DVD on the ModBook's screen was a joy. Since the screen takes up most of the front surface, it's like watching a portable LCD. (See "Stand Up, ModBook" for information on ModBook stands under development.) The screen was bright and crisp. And because the speakers no longer have to bounce their out-put off the MacBook's screen, their sound was improved. The side-to-side viewing angle was also good, but I wasn't as impressed with the vertical viewing angle's color and contrast shifts. The ModBook works just fine with Front Row, Apple's multimedia-management software, though there is one problem: because the remote sensor is in the same place as it is on the MacBook, you can't control Front Row via the remote if you stand the ModBook up.

## New Frontiers

The ModBook is not designed for the masses—which is precisely why Apple hasn't made a tablet Mac. Because Axiotron assembles each ModBook when it's ordered, the company can provide a product we're not likely to see from anyone else. People considering the tablet should keep its strengths and limitations in mind—and those who buy it will have the unique experience of running OS X on a Mac that Apple has never offered.

**Jonathan Seff** is Macworld's senior news editor.



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[www.case-mate.com](http://www.case-mate.com)



BY DAN FRAKES

# AirPort Extreme

Apple's wireless networking gear gets a big boost in speed



**A**t this year's Macworld Conference & Expo, Apple quietly announced a new version of the AirPort Extreme Base Station. That announcement was thoroughly overshadowed by the glitzier introductions of the iPhone and the Apple TV, but despite its low-key intro, the new AirPort Extreme Base Station is the most significant upgrade to Apple's wireless technology since it made its debut in 1999. Here's why.

## What's New

The biggest change to the AirPort Extreme Base Station is its support for the new 802.11n wireless networking standard. You have to use the term *standard* loosely, however, because the 802.11n specs aren't expected to be fully completed until 2008. (For more explanation of all that, see "The Power of 'n': 802.11 Explained.")

Whether 802.11n is final or not, the big thing about it is *speed*. Apple claims that the latest Extreme Base Station

offers data throughput that's up to five times faster than the previous generation of AirPort hardware can manage. In real-world use, you're likely to get up to 100 Mbps, compared with 20 Mbps for 802.11g.

The new Base Station also offers twice the range of the 802.11g model (which offered much better range than the orig-

inal Base Station). And it takes advantage of an optional 802.11n feature: the ability to use either the 2.4GHz or the 5GHz wireless spectrum band. So if your 802.11n network has interference problems at one set of frequencies, you can switch to the other.

To get the benefits of 802.11n, you'll need devices that support the

## Wireless Networking Standards: The Basics

Wireless networking is shrouded in arcane nomenclature and confusing specs. Here's what you need to know about the whole 802.11 family.

STANDARD	THEORETICAL SPEED (Mbps)	REAL-WORLD SPEED (Mbps)	BAND (GHz)	APPLE PRODUCT NAME	INTRODUCED BY APPLE
802.11b	11	4-6	2.4	AirPort	1999
802.11a <sup>*</sup>	54	20-25	5	N/A	2007
802.11g	54	20-25	2.4	AirPort Extreme	2003
802.11n	300	100	2.4 or 5	AirPort Extreme	2007

N/A = not applicable. <sup>\*</sup>No Apple product prior to the AirPort Extreme Base Station officially supported 802.11a.

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new standard. According to Apple, this includes all Core 2 Duo iMacs except the 17-inch 1.83GHz model, all Core 2 Duo MacBook Pros, and all Mac Pros with an AirPort Extreme card. The circuitry in these machines already supports 802.11n and requires only a simple software update. That update is included with the new Base Station and is installed with the AirPort Admin software.

If you don't buy a new Base Station, Apple offers the utility as a \$1.99 download from the Apple Store. (The company says that the fee satisfies an accounting requirement.) The software will eventually be included with all new Macs that are 802.11n-capable.

Although you can certainly mix 802.11n devices with devices that use 802.11g or 802.11b on the same network, the presence of older devices will affect your network's overall performance. You'll get the best speeds if everything is 802.11n-only.

The new speed isn't all that's new. Previous AirPort Extreme Base Stations provided only two Ethernet ports: one (WAN) for connecting to your broadband Ethernet connection, and one (LAN) for sharing that connection with wired clients on your local network. If you had more than one wired device—for instance, a computer, a printer, and a network-audio player—you had to connect an Ethernet hub or switch to the Base Station's LAN port. The new Base Station includes four Ethernet ports—one WAN and three LAN—with a built-in 10/100BaseT switch. In other words, you can connect as many as three wired computers and devices to the Base Station.

With the previous AirPort Extreme Base Station (as well as the AirPort Express base station), you could plug a printer into the Base Station's USB port, and any Bonjour-capable computer would automatically be able to print to it. The new Extreme Base Station has that capability, along with something even better: you can now connect a USB 2.0 storage drive—in HFS+ or FAT32 format—to the Base Station's USB port, and any computer on your local network can access that drive, via both AFP (Personal File Sharing) and SMB (Windows File Sharing) protocols. Hard drives and flash drives will work; optical drives will not.

Network-attached storage (NAS) has been available for some time. But integrating it into the new Base Station makes it more accessible and affordable than ever before. You can assign an AirPort Disk password—or create separate AirPort Disk accounts, each with its own password—so that only certain wireless users can access the attached drive. You can even use a new AirPort Disk Utility to set up drives to mount automatically on your desktop whenever you connect your Mac to the network.

If you've got a USB printer and a USB drive, or more than one of each, you can simply connect a USB hub to the Base Station's USB port and then connect those devices to the hub. All of the printers and hard drives will be accessible on the local network, and you can use AirPort Utility to configure access to each drive independently.

As with previous Base Stations, you can use connected devices' Media Access Control (MAC) addresses to regulate access to your wireless network.

## Mix and Match

**TIP** If you're building an all-802.11n network, set all the hardware to use the 5GHz band. Signals don't travel as far over the 5GHz band as they do over comparable 2.4GHz signals, but you'll have access to a bunch of extra channels. If you're mixing 802.11b and 802.11g gear with 802.11n equipment, or if you live in an apartment building or a city with available Wi-Fi, you'll have to stick with the 2.4GHz band.

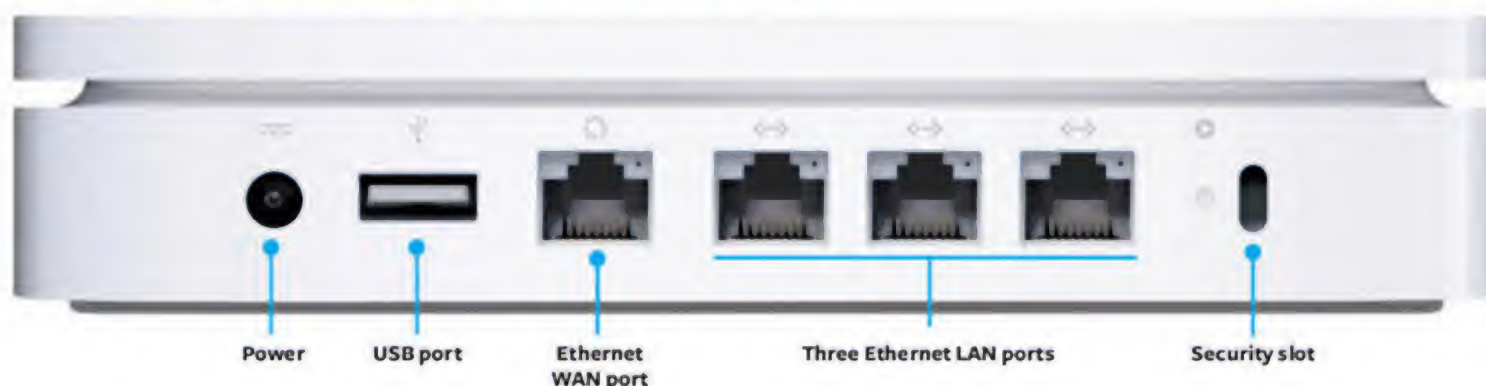
The new models also allow you to set specific *times* when each device can access the network. For example, you could allow your child's MacBook access to the Internet only during homework time.

## What's Missing

As already noted, the new Base Station includes a 10/100BaseT switch. But it doesn't include support for the newer—and faster—1000BaseT, or Gigabit Ethernet, standard. Apple says that 100BaseT Ethernet delivers ample performance for most common tasks on a home network—even for multiple video streams. For the most part, that's true. But it's still unfortunate that Gigabit Ethernet is absent, given that the technology is present on every Mac shipping today.

Unlike previous Extreme Base Stations, the new model does not have a port for an external antenna that would allow you to extend the range of

## Behind the New AirPort Extreme



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your wireless network. That's because this Base Station supports a technology called multiple-input, multiple-output (MIMO), which uses an array of antennas—the AirPort Extreme has three—to improve performance and range. Adding an external antenna would actually disrupt this array.

The new Base Station also lacks a modem and a wall-mounting bracket.

And while the previous generation of AirPort Base Stations supported Power over Ethernet, a technology that can juice some Ethernet peripherals over the Ethernet cable, this one doesn't.

### Looking Forward

Based on specs alone, the new AirPort Extreme Base Station is going to be a welcome update to Apple's wireless-

router line. It should also be a much more attractive product than the older Base Stations, which were criticized for being more expensive than similar third-party products. *Macworld* will be testing the new Base Station's performance and functionality when it ships.

**Dan Frakes** is a *Macworld* senior editor.

## The Power of 'n': 802.11 Explained

Though a final 802.11n standard hasn't been officially ratified by the Institute of Electrical and Electronics Engineers (IEEE), Apple began releasing hardware (the Intel Core 2 Duo Macs) that secretly included that technology last year. Even as Apple officially announced its 802.11n-compliant AirPort Extreme, the standard's specifications weren't final.

This isn't the first time that Apple has jumped the gun on wireless networking. Four years ago, the company released hardware that complied with the then-unapproved 802.11g standard. That seemed to work out OK.

Three days after Apple announced the new AirPort Extreme, the IEEE task group handling the 802.11n standard approved a new draft of the specifications, and they're close to what Apple and other companies have already shipped. If those specs had been significantly different, some gear released in 2006—including those Core 2 Duo Macs—might not have worked at the highest-possible speeds or been fully compatible with equipment released later.

While the final version of 802.11n won't be finished until early 2008 and formally ratified until October 2008, it's almost certain that the 802.11n gear available today will be user-upgradable—via firmware updates—to that final standard.

### Wireless Speed

When the first 802.11g wireless hardware shipped back in 2003, vendors touted its rated speed of 54 Mbps. Many buyers were disappointed to find that they were lucky to get 20 to 25 Mbps in real-world use. By contrast, the most basic flavor of 802.11n shipped by Apple and others has a

raw data rate of roughly 300 Mbps and real-world throughput of 100 Mbps. The number to focus on is the real throughput, not the raw data rate.

The IEEE specs allow for faster forms of 802.11n. Such devices could hit 600 Mbps in raw speed and perhaps 200 to 300 Mbps in actual throughput, and will cost substantially more than regular 802.11n equipment. Just as 802.11n is compatible with all older 802.11 versions at their fastest speeds, faster variations of 802.11n must work with slower versions.

802.11n achieves those speeds in several ways. For one thing, it's more efficient. The 802.11a, -b, and -g standards packaged data signals with lots of network-ing overhead. Streamlining that packaging boosts 802.11n speeds considerably.

Also, 802.11n uses multiple-in, multiple-out (MIMO) antenna arrays. Each 802.11n device has at least two receiving antennas, two transmitting antennas, and two radios. In theory, doubling the number of radios doubles the raw bandwidth. Multiple antennas also make it possible to focus radio waves at higher energies; that produces greater sending range. The multiple receiving antennas mean greater reception sensitivity. Greater range and sensitivity mean 802.11n hardware should be able to pick up data from greater distances.

802.11n also provides more bandwidth than 802.11a, -b, or -g. In the 2.4GHz band, 802.11g and 802.11b use 22MHz-wide channels that allow up to 54 Mbps of raw data to pass; the same is true of 802.11a in the 5GHz band. By contrast, 802.11n will allow

40MHz-wide channels (in the 5GHz band only), for roughly double the bandwidth.

### No Interference

The IEEE paid a lot of attention to making sure 802.11n works well with hardware that uses older network standards. Hammering out that good-neighbor policy is one reason it's taking so long to finalize the 802.11n standard.

For starters, 802.11n hardware is interoperable with 802.11a, -b, and -g equipment, so signals sent by one type of device should be received clearly by another type of device. 802.11n avoids interfering with nearby networks that use older standards: it has been designed so that a device will drop out of its 40MHz channel if it senses that it's getting in the way of older networks. You can also avoid interference by switching to the 5GHz band. In the United States, the 2.4GHz band has 11 available channels; the 5GHz band has as many as 23 (Apple supports just eight). If one channel in a given band is experiencing interference, 802.11n hardware can switch to another.

### The Bottom Line

If you're planning to buy all-new Apple gear, you can probably go ahead and buy the new AirPort Extreme. But if you're building a network with 802.11g and 802.11b equipment, or with hardware from different vendors, it might be wise to wait until the second quarter of 2007, when the odds of compatibility will be better. —GLENN FLEISHMAN





BY KIRK MCELHEARN

# Life on the Road

Macworld's field guide to living without a desktop

Not long ago, it was generally understood that if you were serious about getting work done, you needed a desktop computer. But walk into just about any café, business meeting, or college class, and you'll see how times have changed. Laptops are currently Apple's fastest-growing product line, with sales up 79 percent over the last year. In fact, Apple now sells more laptops than desktop systems.

With multiple processors, sleek designs, and plenty of hard-drive space, Apple's newest laptops—the MacBook and MacBook Pro—have little reason to envy their desk-bound siblings. These powerful portables can meet the needs of the most-demanding road warriors, including photographers, programmers, and designers. But living with a laptop has its challenges. For example, you'll need to figure out how to keep your battery charged on long trips, and you'll have to take additional security precautions to keep your Mac safe.

If you're ready to leave your desktop behind, these strategies should help you cut the cord.

## Staying in Power

**W**hen you make the switch from a desktop Mac to a laptop, it's not uncommon to become obsessed with power—specifically, where to find it and how to keep it from vanishing before the movie's end credits roll.

According to Apple, a MacBook's battery can run for up to six hours on a single charge; the 15-inch MacBook Pro can run for up to five (you'll get five and a half hours from the 17-inch model). However, these numbers represent a best-case scenario. If you use your laptop for processor-intensive tasks, your battery will drain more quickly. For example, working in Microsoft Word while checking your e-mail over a wireless network will drop your battery life to about three hours. And if you watch a DVD, that movie had better be shorter than two and a half hours.

Thankfully, there are plenty of ways to extend your battery's charge.

**Keep the Juices Flowing** If you spend a lot of time away from home base, be sure to carry your AC adapter with you. That way, you can recharge whenever you find yourself near a free outlet. You can purchase a spare power adapter from Apple for \$79. By the way, despite the differences in wattage, you can use the MacBook Pro's 85-watt power adapter with a MacBook. You can also use the MacBook's 60-watt power adapter with a MacBook Pro. But you might have to choose between charging the Mac and running applications—you probably won't get enough power to do both simultaneously.

If you spend a lot of time in your car, you might want to consider a car power adapter, such as Targus's \$60 Mobile Power Inverter ([macworld.com/2532](http://macworld.com/2532)). When plugged into your car's cigarette lighter, the Mobile Power Inverter provides an outlet for your laptop's AC adapter. It has a built-in surge protector, and it can recharge other portable devices, such as PDAs and cell phones.

If you need power while flying, you may benefit from Apple's \$59 MagSafe Airline Adapter, which plugs into the EmPower ports and 20mm ports found on some planes—typically in business or first class. Not all planes offer in-seat power, so you should do your homework before booking your flight (for a useful guide to planes that offer power ports, go to [www.seatguru.com](http://www.seatguru.com)).

If you're worried about running out of juice before you have a chance to recharge, buy a second battery that you can switch to when the first one dies.



**Apple MagSafe Airline Adapter** If you're lucky enough to score a seat with an EmPower port or a 20mm port, you can use this power adapter from Apple to keep your laptop running for the entire flight. To see which seats on your next flight offer a power supply, check out [www.seatguru.com](http://www.seatguru.com) before booking your flight.



**FIND IT ONLINE** Check out our new Mobile Mac blog at [macworld.com/](http://macworld.com/)

2551



You can purchase a spare battery from Apple for \$129. You can pick up an extended-life battery from FastMac for \$100 and keep going even longer ([www.fastmac.com](http://www.fastmac.com)).

**Conserve Power** To make your battery last as long as possible, eliminate unnecessary power hogs. The best place to start is in the Energy Saver preference pane, which offers options for putting your screen or computer to sleep after periods of inactivity. But there are also some less-obvious solutions.

Whenever possible, turn down your screen's backlight (using the F1 and F2 keys) and unplug USB devices such as mice and card readers (these devices use energy even when they're not in use). You should also turn off AirPort and Bluetooth on airplanes and when you don't need them; these technologies are battery drains. You can turn off AirPort via the Airport Status menu—it's the one that shows the strength of your wireless signal—at the top of your screen. (If you don't see the menu, open your Network preference pane, double-click on AirPort, and select the Show AirPort Status In Menu Bar option.) To turn off Bluetooth, open your Bluetooth preference pane, click on the Settings tab, and select Turn Bluetooth Off.

And be sure you have enough RAM to keep your hard drive happy. When hard drives don't have sufficient memory, they must rely more heavily on virtual memory, which requires more processor work and, in turn, uses more power.

**Calibrate Your Battery** When running off the battery, your laptop monitors how much power you have left, and it displays a warning when the battery is getting low. But over time, your battery display may become less accurate, making it harder to gauge your battery's performance. You can help set things right and keep your battery running efficiently by calibrating your laptop's battery. The calibration process helps the battery's internal circuits find the battery's high and low points, so it knows how much power it has.

You should calibrate your battery as soon as you get a laptop. To do this, connect the AC adapter and let the laptop charge completely. Keep the adapter connected for at least two hours after it's fully charged (feel free to use the computer

during this time, as long as you keep it plugged in). After two hours, disconnect the adapter and use the laptop as normal. Let the computer run until the battery gets so low that it forces the computer to go to sleep (make sure to regularly save whatever you're working on when the battery gets low). Leave the laptop alone for at least another five hours, so the battery will fully discharge, and then plug it in. After that, recharge it and use it as

usual. For the best battery performance, you should calibrate it every few months.

You can keep an eye on your battery's health with the help of Coconut Flavour's free coconutBattery ([www.coconut-flavour.com](http://www.coconut-flavour.com)). This utility shows you your battery's current and maximum charge, as well as the number of battery cycles you've used, so you can have an idea of how long your battery will last.

## Make Yourself Comfortable

Sitting hunched over a laptop is fine when you're on the road, but if you're planning to work for a long time, you'll want to make yourself more comfortable. When you're at home or at the office, take your cue from traditional desktop systems and create a functional workstation. With the right peripherals, you can have all the advantages of a desktop Mac (a large monitor, a full-size keyboard, and a comfortable setup) with all the convenience of a laptop. When you're setting up your equipment, consider these tips:

**Dock It** To simplify connecting your laptop to the various cables you use, consider getting a docking station.

BookEndz ([www.bookendzdocks.com](http://www.bookendzdocks.com)) sells docking stations for all current Mac laptops, as well as many older models. The \$159 MacBook Docking Station, for example, fits right into the ports on the left side of the computer. It even offers an additional powered USB hub, as well as a VGA port for connecting an older monitor. Once you've connected all your peripherals and cables to the docking station, you can simply slide the docking station into your laptop's ports. All your other cables stay connected to the docking station, so docking and undocking is faster and produces less cable tangle.

**Cut the Clutter** If you're bothered by cable clutter, consider going wireless with a Bluetooth keyboard and mouse, such as Apple \$59 Wireless Keyboard and \$69 wireless Mighty Mouse (ⓧⓧⓧⓧ; [macworld.com/2349](http://macworld.com/2349)). When Bluetooth support is turned on, your laptop will automatically detect your keyboard and mouse, so there's no effort on your part. Just be sure to turn off Bluetooth when you're on the road, to save battery power.

**Keep Your Cool** If you have an external monitor and input devices, you may be tempted to simply close your laptop and forget about it while working at your desk. But your laptop will work more efficiently if you give it a little breathing room. Leaving your portable flat on a desk or table will raise its temperature, causing its fans to run more often. To help it cool down, place your laptop on a riser so air can circulate on all sides. Even a piece of wood or a book will raise the computer enough to allow air to flow beneath it. I also recommend leaving the laptop lid open slightly so that air can circulate and dissipate any heat.

**Use Your Laptop as a Monitor** If you're on a budget or you're tight on space, you can save money by using your laptop's screen as your monitor. If you go this route, consider getting a laptop stand, such as Griffin's \$40 Elevator ([www.griffin-technology.com](http://www.griffin-technology.com)). A laptop stand has two advantages: it raises the laptop to eye level, which is much better for your neck and back, and it allows air to flow beneath the laptop.



**Plug It In** The MacBook Docking Station, from BookEndz, connects to all your peripherals and fits into the ports on your 15-inch MacBook.



## 5 Steps to a More Secure Laptop

**Y**ou wouldn't dream of carrying around your tax forms and bank statements in your backpack. Yet many of us don't think twice about leaving equally sensitive data unprotected on our laptops for anyone to find.

If you must carry around personal or confidential files, make sure you've taken appropriate steps to protect them—and yourself. Losing a laptop is bad enough; your identity and bank accounts shouldn't be at risk, too.

**1 Require Identification** With OS X's Automatic Login feature turned on, your laptop is literally an open book. Anyone who presses the power button will have instant access to your files. To turn this feature off, go to the Accounts preference pane and click on Login Options. (If the button is dimmed, first click on the lock icon and enter your administrator password.) Deselect the Automatically Log In As *user name* option. Now anyone who tries to use your laptop will have to enter a password to access your system.

**2 Encrypt Sensitive Files** The login process will keep out the casual snoopers, but it won't guarantee privacy. Thieves who know what they're

doing will be able to get around this barrier. So take extra precautions for sensitive files such as financial information or company data.

One of the easiest ways to protect important files is to place them in an encrypted disk image. When locked, an encrypted disk image ensures that only someone with the correct password can access the data. Once it's unlocked, however, you can easily work with the files it contains.

You can create encrypted disk images with the help of Disk Utility (/Applications/Utilities). To create a new disk image, choose File: New: Blank Disk Image, choose the desired size, and enable encryption. When you click on Create, you'll be asked to provide a password for your disk image.

To work with the disk image, double-click on the resulting disk-image file and enter your password. It should appear as a disk in the Finder's sidebar. You can now drag any folders or files you want to protect onto the disk image. When you're done, unmount it to again encrypt the contents. (For detailed instructions on setting up encrypted disk images, see [macworld.com/2425](http://macworld.com/2425)).

**3 Lock It Down** Encrypted disk images protect your files only when they're locked. If you step away from your laptop after you've logged in and unlocked your files, anyone who walks by will have full access. To prevent this from happening, require a password to wake your computer from sleep or from the screen saver.

Open the Security preference pane and select the Require Password To Wake This Computer From Sleep Or Screen Saver option. Then switch to the Desktop & Screen Saver preference pane and set your screen saver to turn on after a few minutes. (You may also want to set a hot corner so you can activate it manually.)

If you don't want to have to enter your password every time you sit staring at your Mac's screen for a couple of minutes, you can opt to lock your screen only when you're stepping away from your computer. Open the Key-



**Supply Your Contact Info** Visage, by Sanity Software, gives you an easy way to add text to your login screen.

chain Access utility (Applications/Utilities), and choose Keychain Access: Preferences. Click on the General tab and select the Show Status In Menu Bar option. A small lock icon will appear in your menu bar. Quit Keychain Access. The next time you need to step away for a moment, click on the lock icon and select Lock Screen.

**4 Give Good Samaritans a Hand** In case some well-intentioned soul finds your misplaced laptop, make sure that you provide information on how to get in touch with you. Visage, a \$10 preference pane by Sanity Software (🔗🔗🔗; [macworld.com/2535](http://macworld.com/2535)), gives you an easy way to add text—such as your first name, your e-mail address, and a phone number—to your Mac's login screen.

**5 Track It** So what happens if your laptop gets stolen? If you've installed tracking software, such as SealthSignal's XTool Computer Tracker ([www.xtool.com](http://www.xtool.com)), you may just have a shot at getting it back. This software communicates with a central server when the Mac is connected to the Internet. If you lose the laptop, contact SealthSignal—there's a chance it will be able to find out where your computer is.

### Guarding the Safe

**TIP** You can have as many encrypted disk images as you want—one for your tax files, one for your company's merger plans, and so on. For help managing multiple encrypted disk images, check out Marko Karppinen & Co.'s \$30 Knox (🔗🔗🔗; [macworld.com/2534](http://macworld.com/2534)). Knox makes it easy to create new disk images; open, delete, or move existing disk images; and back up disk images—all from the Dock.







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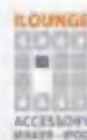
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# To Serve and Protect

**L**aptops tend to take a beating. They get dropped, banged around, and sometimes even crushed by reclining airplane seats. Small shocks generally won't hurt your laptop, but over time, these bumps and bruises can lead to larger problems. Buying a good laptop case can help prevent some of the damage (see "Shield Your Laptop"), but for full protection you may want to consider an extended warranty.

Every Mac is guaranteed against defects for a full year. You can extend this protection for another two years by purchasing Apple's AppleCare protection plan. But AppleCare isn't your only option. Many stores offer their own

service contracts for laptop repairs—often at lower prices.

AppleCare gives you telephone support, something you won't get from most store contracts. However, depending on where you live, getting repairs done may be a hassle. In some areas, Apple provides mail-in repairs. But in others, you have to go to an authorized Apple maintenance center which may be far from your home. In this case, getting a store contract might be best, since you'll have to drive only as far as the mall where you bought it.

AppleCare is also relatively expensive. It costs \$249 for a MacBook and \$349 for a MacBook Pro. Other retail store contracts' prices vary according to the

store and the length of the contract. J&R ([www.jr.com](http://www.jr.com)), for example, offers a \$130 extended warranty that adds two years to Apple's default one-year warranty. When comparing contracts, be sure to check what's covered—some include screen replacement or theft insurance.

Of course, timing is everything. You can buy an AppleCare contract at any time during the first year of ownership. You usually have to buy store contracts when you buy the computer.

**Kirk McElhearn** has authored and coauthored a dozen Mac books. His blog, Kirkville ([www.mcelhearn.com](http://www.mcelhearn.com)), features articles about OS X, the iPod, and more.

## Shield Your Laptop

Looking for a stylish way to protect your laptop from bumps and bruises? Here are a few of the bags we're digging right now. —DAN FRAKES

### 1 Rip-Stop Backpack

**\$100; Incase ([www.goincase.com](http://www.goincase.com))**

It's tough to find a laptop backpack that's functional and attractive, but Incase's Rip-Stop Backpack (available only at Apple Stores) is that and more—comfortable, spacious, and sturdy, with lots of clever organizational features.

### 2 Luncheon

**\$95; Crumpler ([www.crumplerbags.com](http://www.crumplerbags.com))**

The subtly colorful Luncheon, available in blue, olive, or black and gray, is a compact shoulder bag with just enough room for

your laptop, its accessories, and a book or two. And the non-laptop compartment is also padded (unlike the same compartment in most shoulder bags).

### 3 Codex

**\$65; Moshi ([www.aevoe.com/moshi](http://www.aevoe.com/moshi))**

Moshi's shiny Codex is as svelte as a sleeve but offers the protection of a case. Rigid panels and dense, bounce-back padding protect your laptop when the Codex is closed. But unzip it, and the top swings back, making your laptop usable and its ports accessible without your having to

remove it from the case. A removable handle, a clip-on Apple Remote case, and a keyboard protector are bonuses.

### 4 City Backpack

**\$50; Dickies ([www.yakpak.com](http://www.yakpak.com))**

The last thing a student wants to do is advertise that there's a laptop in his or her bag. Dickies' City Backpack looks like the classic canvas student backpack of yesterday, but hidden inside is a fully padded laptop compartment, plenty of space for books, and a padded pouch for an iPod.

### 5 Medium Laptop Case

**\$170; OtterBox ([www.otterbox.com](http://www.otterbox.com))**

Rough on your laptop? The Medium Laptop Case, from OtterBox, is a waterproof, shock-resistant, lockable briefcase that keeps your laptop safe and dry in even the worst environments. Although you shouldn't take it swimming, it'll certainly stand up to raindrops and more.





# Prosoft's Data Rescue Has Saved a lot of Bacon



## Hard Drive Recovery in a Box

• "THANK YOU for saving my bacon and restoring the photos that hold so many wonderful memories."  
-Nathan Miles

• "Thanks, Data Rescue was able to recover 100% of my data that I needed - simply amazing."  
-Neil Kesterson

• "I'd like to say THANK YOU to Prosoft Engineering for Data Rescue!! It saved my business!!"  
-Laine Anderson

• "Thanks !!!! A gift. Nothing else even came close to even seeing my files!!!"  
-Michael Cauffman

• "Your product saved my entire corrupt hard drive. Thank you Prosoft Engineering!"  
-Tom Sommerseth

• "From panic to calm all thanks to Data Rescue."  
-Drew C

• "Data Rescue by Prosoft Engineering really saved my bacon."  
-Randy Burleson

• "The best \$100 I've ever spent!  
MUCH BETTER THAN FLOWERS!!!"  
-Bruce Mentzer

• "Your product is the best I have ever seen and works exactly like you say;"  
-Carmela Garcia

• "In a word, TAH-DAH!!! It's like "magic"! I really thought everything on my drive was gone - Data Rescue got it back!!"  
-P.A. McEwin

• "Data Rescue II does exactly what it says on the box."  
-James Wright



Where to buy \_\_\_\_\_

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Life

## 4 ways to put your old PowerPC Mac to work—and when to let it go

If you've made the switch to an Intel-based Mac, the skeleton in your closet might be an old PowerBook. Or perhaps it's an original flat-panel iMac gathering dust behind your skis. Buying a new computer typically leads to a dilemma many consumers don't think about ahead of time: What to do with the old one?

# for Old Macs

new

Well, you may find that it has some life in it yet. There are plenty of useful ways to put an old Mac to work around the house. We'll show you four simple projects that can turn an old PowerPC Mac into a useful member of your household. And even if it is time to unplug your Mac for good, remember that one person's trash is another person's treasure. From charities to eBay, you've got plenty of options for disposing of your Mac—and none of them involves the back of the closet.

PHOTOGRAPHY BY PETER BELANGER

Styling by Caitlin Morgenrath

Family Message Center  
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Saying Good-Bye to Your Mac  
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# Family Message Center

BY CHRISTOPHER BREEN

Say good-bye to the days of hastily scribbled notes shoved behind refrigerator magnets. You can use an outdated Mac to keep track of your family's comings and goings—it can serve as a messaging hub, an answering machine, a weather station, and the keeper of the family calendar.

## New-Age Notepad

Call Aunt Martha. Pick Jimmy up from soccer practice. Buy cat food. A reliable note-taking system is the heart of any message center.

**Stickies** OS X's built-in Stickies program is a great replacement for Post-its. Each family member can choose his or her own Stickies color (there are six in all), and Stickies notes can contain hyperlinks—to movie times, for instance, or to a Web page with directions to the theater. To create a link to a Web page, enter a URL; to create a link to an e-mail address, type `mailto:name@example.com`. Then highlight the text, control-click on it, and choose Make Link from the contextual menu.

**Scribble It** Prefer old-fashioned handwritten notes? With Panic's DeskTastic or MacMax.org's Scriboard, you can use your mouse to scrawl numerous messages across your desktop. Choose a green desktop background for that chalkboard feel. Both programs also let you type messages right onto your desktop.

## Sync Your Schedules

Dinner's ready—where on earth is everyone? If you had created a family calendar, you'd know. One of the beauties of iCal is that it lets you view everyone's calendars at once.



## What You'll Need

**Mac** (preferably 800MHz G4 or faster running OS X 10.3 or later (10.4 for Dashboard weather widgets))

**Apple Stickies** (free), **Panic DeskTastic 3.0** (\$13; [www.panic.com](http://www.panic.com)), or **MacMax.org's Scriboard 1.5.2** (\$20; [www.macmax.org](http://www.macmax.org))

**.Mac account** (\$100 per year; [www.mac.com](http://www.mac.com))

**Parliant PhoneValet Message Center** (\$170; [www.parliant.com](http://www.parliant.com)) or **Ovolab Phlink** (\$150; [www.ovolab.com](http://www.ovolab.com))

**Apple Weather widget** (free) or **AWS WeatherBug** (free; [www.weatherbug.com](http://www.weatherbug.com))

Of course, you're not always home to look at that carefully plotted calendar. But if you publish it to .Mac, you can check it from any Web browser. Unfortunately, iCal can't display multiple calendars on the Web, so you'll have to combine them. To create a group calendar, choose File: New Calendar Group, and then drag individual calendars onto it. When you're done, select the group and choose Calendar: Publish. Select the Publish Changes Automatically option to keep the calendar up-to-date. Now you'll see everyone's schedules in one place.



**Mac Message Board** Put your old Mac to good use as your family's communications hub.

## Look Who's Calling

Your 13-year-old daughter doesn't want you listening to her telephone messages—and frankly, you don't want to hear them. A Mac-based telephone system can give each family member his or her own mailbox.

To turn your Mac into an answering machine, you'll need either Parliant's PhoneValet Message Center (☎☎☎☎; [macworld.com/1344](http://macworld.com/1344)) or Ovolab's Phlink (☎☎☎☎; [macworld.com/1343](http://macworld.com/1343)). Just plug the included hardware device into your Mac's USB port and an available phone line. Both programs can play different outgoing messages for different callers and send e-mail alerts when new messages arrive.

## Weather Mac

Before you send the family out into the world, make sure they're dressed for the weather. With OS X 10.4, you can use Apple's Dashboard Weather widget to display today's forecast.

But you don't need to keep pressing F12 to get a peek at the forecast. To keep the Weather (or any) widget on constant display, launch Terminal from an administrator's account and type `defaults write com.apple.Dashboard devmode YES`. Quit Terminal and then press F12 to expose Dashboard. To force a widget to remain open on the desktop, click and hold on it while pressing F12 again. (If this doesn't work right off the bat, restart Dashboard by logging out.)

And for a more-comprehensive weather widget, try AWS's WeatherBug. You'll get today's conditions, as well as wind speed and direction, the three-day forecast, weather radar for your area, and access to live Web cams.

## Super Screen Savers

A screen saver can prevent wear and tear on your monitor while communicating valuable information at a glance.

**On the News** Using OS X 10.4's built-in RSS Visualizer screen saver, you can pick your favorite news feed, such as BBC News, CNN/Money, or ESPN.com. Every time the screen saver kicks in, you'll see headlines on your topic of choice.

**Don't Forget** Alloc Software's free FadeText ([www.allocsoft.com](http://www.allocsoft.com)) displays any text you enter into its configuration box—*Call Mom*, *Lunch is in the refrigerator*, and so on.

**Take Your Umbrella!** How cold is it? Download the Weather Channel's free screen saver ([macworld.com/2490](http://macworld.com/2490)) to see the current temperature and conditions for your area.

Senior Editor **Christopher Breen** is the author of *The iPod and iTunes Pocket Guide*, second edition (Peachpit Press, 2006).





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# Security System

BY ANTON LINECKER

Want to look in on the kids while you're at work? Check on the house when you're away? Or simply see what the dog does all day? By outfitting your old Mac with a camera and software, you can build a monitoring system that lets you spy on your house from anywhere in the world.

## The Materials

To set up a home-monitoring system, you'll need a Web cam and a video-security program that lets you see what's going on from the Internet.

**Web Cam** You can use your Mac's iSight or a FireWire Web cam. However, these types of cameras usually have short cables, so you'll have to situate your Mac close to the camera. To mount the camera in a different room from the computer, choose a network camera, such as D-Link's Ethernet-only DCS-900 (\$95; [www.dlink.com](http://www.dlink.com)) or Hawking Technologies' 802.11g or Ethernet-compatible HNC320G Wireless-G (\$170; [www.hawkingtech.com](http://www.hawkingtech.com)).

**Video Software** Ben Bird's SecuritySpy is a video-surveillance program that scales easily from a one-camera setup to a professional security system featuring dozens of cameras. Evological's \$25 EvoCam ([www.evological.com](http://www.evological.com)) also works, but I prefer SecuritySpy's customizable Web interface, which lets you tweak camera and server settings.

## The Setup

Launch SecuritySpy. If your camera is connected to the computer, the appli-

cation will detect it automatically. If you're using a network camera, go to Settings: Video Device Setup, and click on the Network Devices tab. Enter the camera's IP address and port number. Then you can opt to choose a user name and a password (to prevent nosy neighbors from looking in on you).

To enable your Mac as a live security server, go to Settings: Web Server Setup, and click on the Web Server Enabled box. Choose a port number for the server—the default, 8000, is fine. To limit access to the server, select the Password Protected box and set a user name and a password in the Account Setup screen.

To make your video available over the Internet, you'll have to open a port in OS X's built-in firewall (if it's enabled). Open the Sharing preference pane, select the Firewall tab, and click on New. Select Other from the Port Name pop-up menu, and then enter 8000 (or whichever port number you've chosen) in both port-number fields.

If your home network includes a router, you'll also have to set up port forwarding to open that same port in your router's firewall. (Port forwarding creates a "tunnel" through the firewall so you can access the SecuritySpy server from outside your network.) Port forwarding varies from router to router, so consult your manual or visit [portforward.com](http://portforward.com) for instructions.

## Let the Spying Begin

To view your server from the Web, enter your Mac's public Internet address and the port number into a browser, like so: <http://YourPublicAddress:8000>. Once you've entered your user name and password, the SecuritySpy server lets you view any camera on your network.

**View from Anywhere** A wireless network video camera lets you capture video from any room.



## What You'll Need

**Mac** (G3 or later) running OS X 10.4

**Ben Bird's SecuritySpy** (from \$50 for a single camera to \$500 for unlimited cameras; [www.securityspy.com](http://www.securityspy.com))

FireWire or network **video camera**

If your Mac uses a static IP address, jot down your public Internet address as you set up your system (to find it, visit [www.ipchicken.com](http://www.ipchicken.com)). If you have a dynamic IP address, you'll have to use a dynamic DNS service to locate your computer on the Internet. For instructions, see "Remotely Access Your Mac" at [macworld.com/2491](http://macworld.com/2491).

## Catch 'em in the Act

SecuritySpy also has a motion-detection feature. Go to Settings: Camera Setup, and click on the Actions tab. There you can set SecuritySpy to play a sound or send an e-mail with pictures if it notices movement. Just make sure that you set the camera to Active mode (Control: Set All Cameras To Active Mode).

You can also set SecuritySpy to upload videos or images to an FTP server. That way, if someone breaks into your house and steals your Mac, the evidence you've collected doesn't disappear. Go to Settings: Camera Setup. Under the Motion Capture tab, enable the Capture Movie When Motion Is Detected option. Select the Upload To option and configure your FTP settings. Then set the Capture Type menu to Separate Movie Per Event. SecuritySpy will start uploading the moment it notices movement.



**Live Views** SecuritySpy lets you view a live video feed from any computer.

**Anton Linecker** is a writer and technical advisor in Los Angeles.





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# Multiple-Mac Backup Server

BY KIRK MCELHEARN

If you have several Macs at home, consider putting an old PowerPC system to work as a backup server. Rather than stocking up on DVDs or installing second hard drives, you can use one machine to back up everyone over the network.



**Protect Your Files** ChronoSync lets you back up to another Mac on your network.

## Get Equipped

Since the only thing your server will do is receive files, it doesn't need much memory or a fast processor. In fact, any machine that can run OS X will work. Here's what you *do* need:

**Loads of Storage** Estimate the size of all users' files that you'll be backing up, and then multiply by two. That's the approximate amount of hard disk space you'll want to have on your server. If you don't have enough storage, you can connect an external FireWire drive, add a second internal hard drive (on tower Macs), or upgrade the hard drive. These days, a 320GB drive will cost a little more than \$100.

**Fast Connection** Network bandwidth is a must. If you're using a wireless network, you can install an AirPort Extreme card (most Macs from the past few years should be compatible). If not, you can connect your backup server directly to the network via Ethernet. And if all your Macs are close enough that you can connect them with Ether-

net cables, your transfer speeds will be even faster.

**Backup Software** While you *can* manually copy files to the server, life will be a lot easier if you install backup software on each user's Mac. For one thing, you can set backups to run automatically. Also, most programs can back up incrementally—they copy only files created or changed after the previous backup, which makes backups much faster. Since you probably don't want to spend a lot of money outfitting your old Mac as a backup server, I recommend Econ Technologies' ChronoSync (★★★★; [macworld.com/0609](http://macworld.com/0609)), but any number of programs will work (see "Backup Options").

## Configure the Server

Your server's setup will depend on whether you're backing up to a single disk or using a second hard disk (either internal or external).

**Single-Disk Backup** If you're backing up to a machine with a single drive, create accounts for all users who will be backing up files (via the Accounts preference pane). Either administrator or standard accounts will work, but it's probably best to use the same user names and passwords that your household members use on their own Macs. Create a Backup folder at the top level of each user's Home folder so it'll be easy to find backed-up files.

**Secondary-Disk Backups** If you're using a secondary hard disk, you should give each user administrative privileges, since standard users can't access locations other than their Home folder and other users' Public folders over the network. (In the Accounts preference pane,



## What You'll Need

**Mac** running OS X 10.3 or later with plenty of hard disk space

**Econ Technologies ChronoSync 3.3.4** (\$30; [www.econtechnologies.com](http://www.econtechnologies.com)) or an alternative (see "Backup Options")

**Apple AirPort Extreme card** (\$49; [www.apple.com](http://www.apple.com)) or Ethernet cables and hubs (as necessary)

select each user and then enable the Allow User To Administer This Computer option.) Create folders for each user at the top level of your secondary disk, to keep backups separate.

## Start Your Backup Engines

Install ChronoSync on each user's Mac. Make sure that both your backup server and the Macs you want to back up are connected to the same network, and make sure that Personal File Sharing is enabled on the server (in the Sharing preference pane).

**Configuring Your Backup** Launch ChronoSync. From the Operation pop-up menu, choose Backup Left-to-Right. In the Left Target tab, click on the Choose button and select the folder you want to back up. ChronoSync doesn't let you select multiple folders, so it's best to choose one that contains everything you want to copy, such as your Home folder. (You can also create different backups—or documents, as they're called in ChronoSync—and run them separately.)

To select your backup destination, click on the Right Target tab's Choose button. You'll see a standard Open

## Backup Options

Econ Technologies' ChronoSync isn't the only backup program out there. Programs such as Prosoft Engineering's Data Backup 2.1 (★★★★; \$59; [macworld.com/2495](http://macworld.com/2495)) and EMC Insignia's Retrospect for Macintosh Desktop Edition (★★★★; \$129; [macworld.com/2497](http://macworld.com/2497)) offer additional features. For an overview of these and other backup programs, go to [macworld.com/2543](http://macworld.com/2543).



window; click on Network in the sidebar, and then connect to your backup server and mount the correct volume (your Home folder if you're using one disk, or the secondary drive). Return to the sidebar and select the volume you just mounted; then navigate to your backup folder and click on Choose. Save your backup document (File: Save) and click on Synchronize to launch the backup.

**Scheduling Backups** You can automate your backups by selecting Actions: Schedule and then choosing a frequency and time. By default, ChronoSync will copy only new or changed files on subsequent backups. To ensure that the program runs its backups even when it's closed, go to ChronoSync: Preferences and enable the Use Background Scheduler option.

To have ChronoSync mount the server whenever it performs a backup, click on the Options button under Right Target, select the Attempt To Mount Server option, click on Login As, and then enter your user name and password. Also select Dismount Server After Synchronization so the volume will eject automatically after the backup is finished.

**Restoring Backups** Restore backed-up files by mounting the server (from the Finder, choose Go: Connect To Server) and copying any files you need.

### Cut Power Usage

Your server must be awake when you back up, but it certainly doesn't need to be on all night. Go to the Energy Saver preference pane's Options tab, click on Schedule, and then select the days and times you want your server to run. A good time to run your backups is at the end of the day, just after 5 p.m. In that case, you'd set the server to wake up at 5 and then go to sleep an hour later.

**Kirk McElhearn** is the author of many books, including *The Mac OS X Command Line: Unix Under the Hood* (Sybex, 2004).

**FIND IT ONLINE** .Mac subscribers can use Apple's free Backup software to set up their backup server. For instructions, go to [macworld.com/2539](http://macworld.com/2539).



**A Child's Art Station**

Tux Paint provides hours of entertainment for youngsters.

## Kid's Digital Easel

BY CHRISTOPHER BREEN

Does your five-year-old watch in fascination as you work with Photoshop? Encourage your child's interests by turning your retired Mac into a digital art station.

### Prepping the Canvas

Small children often have trouble drawing with a mouse, so invest in a pen tablet such as Wacom's Graphire4 4x5 (★★★★; [macworld.com/0929](http://macworld.com/0929)). You can get refurbished tablets for as low as \$80 through the company's online store. Use the Wacom Tablet preference pane to configure the device's behavior (for example, you might want to disable the pen's side button to prevent your child from accidentally pressing it).

When it comes to drawing, check out the open-source painting program Tux Paint. The program's art tools include a paintbrush, a Stamp tool, and a Magic tool that lets pint-size scribbles apply textures like grass and sparkles. For a more robust program, go with Software MacKiev's Kid Pix Deluxe 3X, which includes a wide variety of stamps, a broader range of colors, and animation tools.

### Drawing Boundaries

To keep your little one from messing with your system files, create a new account with limited privileges. Go to the Accounts preference pane, and make sure that administrative access is not enabled. If you have OS X 10.3 or 10.4, you can limit access further.

Tiger comes with a sweet set of parental controls. To set them up, open your child's Accounts preference pane and click on the Parental Controls tab. Select the Finder & System option, and click on the Configure button. In the sheet that appears, select Simple Finder (a basic interface that kids can't alter). Next to Applications, click on the arrow to reveal all installed programs. Select Uncheck All; then enable only the programs you want your progeny to use. (For more on parental controls, see "Kid-Proof Your Mac" at [macworld.com/1039](http://macworld.com/1039).)

Panther also includes a Simple Finder option—visit the Limitations tab when you create a user account and click on Simple Finder to configure it. When your child logs in, the programs you've enabled will appear in the My Applications folder in the Dock.



### What You'll Need

Mac running OS X 10.3 or later

Wacom Graphire4 4x5 Pen Tablet (\$100; [www.wacom.com](http://www.wacom.com))

Tux Paint (free; [www.tuxpaint.org](http://www.tuxpaint.org)) or Software MacKiev Kid Pix Deluxe 3X (\$40; [www.mackiev.com](http://www.mackiev.com))



# Saying Good-Bye to Your Mac

BY MATHEW HONAN

There may come a time when you have to bid a fond farewell to an old computer. Perhaps it just doesn't have enough processing power or drive space to cut it as a message center or a backup server. Or maybe your small living area can't hold yet another machine. Whether you want to sell it, donate it, or simply recycle it, you should take steps to protect yourself and the environment.



## Initial Preparation

No matter what you plan to do, start by gathering everything that came with your Mac, including system installation discs, product manuals, power cables, and other included gear.

Then on your computer, select About This Mac from the Apple menu and click on the More Info button to launch System Profiler. Write down your machine's model, processor, memory, optical-drive, and networking information. Also note which version of Mac OS you have installed.

## The Big Hose Down

Then it's time to polish up your Mac. This means wiping down the computer

itself, as well as deleting personal information from the hard drive.

**Clean Your Machine** Before you take pictures to post online, remove any stickers and give the case (and display, if applicable) a good going over with a nonabrasive cleaner, such as Meridrew Enterprises' iKlear Apple Polish (\$25; [www.klearscreen.com](http://www.klearscreen.com)). Compressed air, available at any office-supply store, will get the dust out of hard-to-reach places like vents and keyboards.

**Deal with Software** If you use programs that are registered with your machine, make sure you deauthorize them. This includes apps such as iTunes and the programs in Adobe Creative Suite 2. In iTunes, go to Store:

Deauthorize Computer. For Adobe CS2 apps, go to Help: Transfer Activation to install the software on your new machine.

It's also important to remove third-party software, such as Microsoft Word. Copyright holders will go after sellers on eBay who attempt to vend systems with installed software. If you don't remove those programs, your advertisement may be removed.

### Erase Your Drive

Using Disk Utility, you can remove both your personal data and

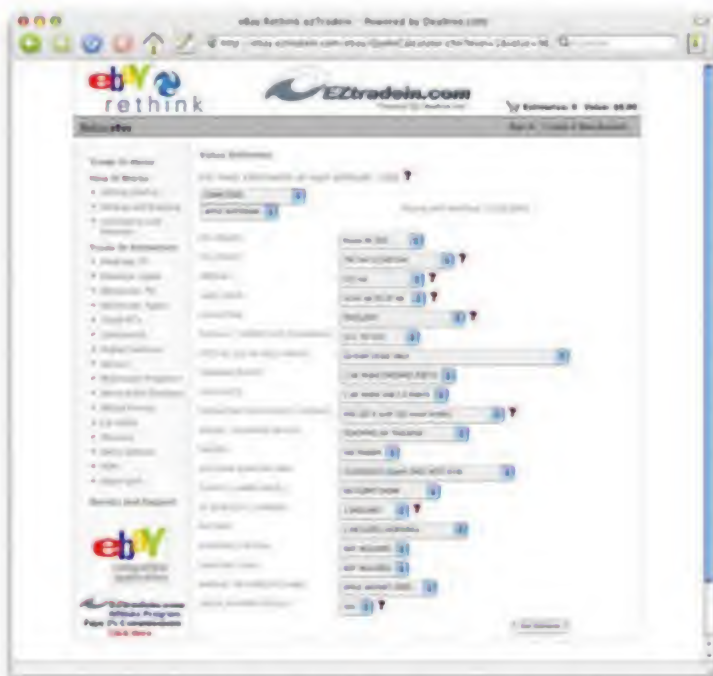
installed software in one pass. Before you begin, make sure you've transferred vital data to another location. Once you've saved those files, start up from the system disc—insert it in the drive, and restart your Mac while holding down the C key. Select a language, click on the arrow button, and choose Utilities: Disk Utility in the screen that appears. (These instructions are based on the latest installation discs, but the general procedure should work for whatever version you have.)

When the Disk Utility window opens, select the hard drive in the pane on the left; then click on the Erase tab. Select Mac OS X Extended (Journaled) from the pull-down menu; then click on the Security Options button and make sure Zero Out Data is selected. This will overwrite your drive with zeros. (Newer versions of Disk Utility also include 7-Pass Erase and 35-Pass Erase options—overkill for those of us who don't keep state secrets on our machines.) When the process finishes, close Disk Utility and follow the installer prompts to reinstall OS X.

## Finding a New Home

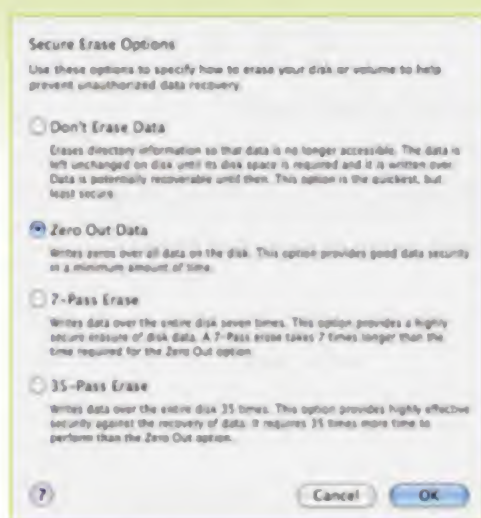
Once your Mac is clean and ready to go, you have a number of disposal options.

**Sell It** You're probably already aware of some of the most popular places to sell used computers, such as eBay and Craigslist. But there are also many Mac-only classified-ad resources online, such as MacSwap ([www.macswap.org](http://www.macswap.org)) and SecondhandMac ([www.secondhandmac.com](http://www.secondhandmac.com)).



**Find Out What Your Mac Is Worth** The PC Selling Zone from eBay and Dealtree.com is a great place to estimate your computer's value.





**Erase Your Data** Choose the Zero Out Data option when removing personal information from your machine.

A good place to evaluate your computer's worth is eBay. One way to do this is to check recently ended auctions of similar systems. Or you can go to eBay's PC Selling Zone ([macworld.com/2492](http://macworld.com/2492)) and get an estimate. Click on the Fast Cash Trade-In link and enter your system specs, and you'll receive an estimated trade-in value. In some cases, you might want to go ahead and sell it for that amount, or you can try to get even more by putting it up for auction on eBay or Amazon.com. (For auction tips, see "Maximize Your eBay Moola.")

No matter where you sell your machine, there are a few precautions to take. First, be as explicit as possible in your listing, to avoid returns—for instance, if your PowerBook has dead pixels, disclose that fact. And protect yourself from online scam artists by requiring that buyers have PayPal accounts. Even if the purchaser ultimately uses another payment method, this confirms that he or she actually has a bank account.

**Donate It** OK, so that Mac you dropped a cool grand on a few years ago is now worth less than an iPod shuffle. If that's the case, consider donating your machine to charity.

Most experts suggest donating to a refurbisher rather than trying to give an old Mac directly to a school or a charity, which may not be set up to receive it. TechSoup.org ([macworld.com/2493](http://macworld.com/2493)) maintains a database of organizations that will take your donated computer. It's even searchable by

zip code to help you find an organization in your area.

**Recycle It** If your old machine is broken or dead, it may be ready for the electronic bone yard. But don't just pitch it in the trash. Throwing away a computer or monitor is against the law in many states. And even if it's not illegal where you live, it's the wrong thing to do.

CRT monitors are loaded with heavy metals like lead and mercury, and the metals and plastics in a logic board aren't exactly eco-friendly, either. This so-called e-waste accounts for approximately 20 to 50 million tons of refuse annually. According to the EPA, 4.6 million tons of e-waste wound up in U.S. landfills in 2000, and studies estimate that discarded electronics make

up about 40 percent of the heavy metals found in landfills.

If you're buying a new Mac, Apple will recycle your old machine for you—even if it's a PC. If you're buying online from the Apple Store, select the Apple Recycling Program option during the verification process. If you're at an Apple retail store, inform the clerk that you want to recycle your old computer. Even if you aren't buying a new computer, you can still find a recycler in your area by checking the state-by-state map at the Computer Take Back Campaign Web site ([www.computertakeback.com](http://www.computertakeback.com)). ☒

**Mathew Honan** is a freelance technology writer whose work also appears in the *National Journal's Technology Daily* and *Wired*.

## Maximize Your eBay Moola

To get the lowdown on how to get the most money for your Mac, I talked to eBay's director of education and the author of *The Official eBay Bible*, Jim "Griff" Griffith.

### **Q: What's the first thing to do when selling a computer on eBay?**

**A:** The first thing to do is to take a picture of all of the items. You're going to do a lot better if you sell the computer with as many of the original accessories and contents as possible. This is where a lot of casual sellers on eBay fall down. Make your photo look professional by putting a background behind your items. In a pinch, a white, or preferably darker-colored, bedsheet will do just fine—no patterns. The point is to isolate the items you're offering from anything else in the room.

### **Q: How can someone get an idea of a computer's value before listing it?**

**A:** It pays to research, and research on eBay is very easy. With something as definitive as a computer, you can search for the computer maker, model, and number if there is one. That will give you some information, but what you really want to do, once you get the search results, is to look over in the left-hand column, under Search Options, for Completed Listings. Then you can see listings that match this keyword search and that have closed in the last two weeks.

If you're selling something in the auction format, you have to be reasonable with your starting bid. If the research shows something is valued at \$100, starting it at \$90 is foolish; no one is going to bid. But if you put a starting bid of \$10, then your chances of getting a starting bid and getting someone into the game are much better.

### **Q: Is there an advantage to setting a Buy It Now price?**

**A:** There may be, depending on the age and type of the computer. The advantage to a Buy It Now price is that if it's reasonable, you can make a quick sale. There are a lot of folks who love the auction format, but there are probably just as many, if not more, who are uncomfortable with it and prefer to just search by price, find a good deal, and buy it. Any seller in an auction-format listing can include a Buy It Now price, and doing so can open up the listing's appeal to a wider array of buyers.

### **Q: Is it better to have a shorter or longer listing time?**

**A:** There is a general rule that works for most situations. The rarer your item, the more it benefits from being up longer. And if you're not in a rush, you have nothing to lose by having your item up for seven or ten days.



# Stop Today's Spam

As junk e-mailers get more resourceful, so must you **BY JOE KISSELL**

**B**y some estimates, spam now accounts for 80 percent of all e-mail sent. I believe it—in the past two months, 73 percent of the messages I've received have been junk. And that's not counting messages that my ISP filtered out before I even saw them. This is no mere annoyance; it's a serious problem that demands serious action. Even if you've taken steps to curtail spam in the past, you may need to adopt some new strategies to keep your inbox under control.

Although some of the time-tested techniques for stopping junk e-mail still work, spammers have adapted their methods in order to outsmart junk-mail filters and other countermeasures. (You know those odd messages you get with quotations from novels and no sales pitch? Their purpose is to trick adaptive spam filters into putting more "good" words and phrases onto their "bad" lists, thereby decreasing the filters' overall accuracy.)

### Take the Usual Precautions

Before you do anything else, make sure you're following a few fundamental pieces of advice you've probably read before. (For additional ideas, see "Win the Spam War" at [macworld.com/2444](http://macworld.com/2444).)

**Never Respond to Spam** Never means *never*. Don't click on an unsubscribe link in a spam message. Don't write to tell a spammer to leave you alone. Don't even use your e-mail program's Bounce command to fake out junk senders. When you respond to an unwanted message, you let spammers know that your e-mail address is valid.



**Use Your Junk-Mail Filter** Apple's Mail, Microsoft Entourage, and most other popular e-mail programs include spam filters. Make sure you've activated yours and enabled all applicable options. And if your spam filter makes a mistake, you must correct it *every time*—if all bad messages are marked as junk and all good messages are marked as not junk, your filter will be much more accurate. (Typically, an e-mail program's toolbar has buttons for this purpose.)

**Try a Third-Party Spam Filter** The filters built into Mail and Entourage aren't bad, but some add-on tools are much more sophisticated. My favorite is Michael Tsai's \$30 SpamSieve 2.5 ([c-command.com](http://c-command.com)). It has been more than 99 percent accurate in my tests and offers numerous ways to customize and improve its results.

### Zap Image Spam

One of the biggest new spam trends is putting message content into an image—or, more frequently, into several pieces of an image that your e-mail program assembles when you view the message. That way, there's no text for a spam filter to work with. Some spam filters (including SpamSieve) can identify image spam, but if your e-mail program can't, it's time to set up a *rule*. (Rules check your messages' content, subject line, sender, and so on for certain conditions, and then filter out those messages as you specify.)

**The Telltale Signs** For starters, image spam often contains GIF attachments. The GIF format is much less common in legitimate mail, so it's a good target. Likewise, most image spam includes a hidden Content-Type header with a value of `multipart/related`, which is rarely used otherwise. (It tells your e-mail program to combine multiple graphics into a single large image.) A rule can look for either or both of these characteristics and move matching messages into your Junk mailbox or folder.

**Apple Mail Rules** To create an image-spam filter in Mail, choose Mail: Preferences, click on the Rules icon, and then click on the Add Rule button (see "Eliminate Image Spam"). Type a name, such as **Image Spam**, in the Description field, and choose All from the If (Any or All) Of The Following Conditions Are Met pop-up menu. Choose Edit Header List from the first condition pop-up menu. In the dialog box that appears, click on the plus-sign button (+), type in **Content-Type**, and click on OK. Now choose Content-Type from that same pop-up menu



and enter **multipart/related** in the Contains text field. Click on the plus-sign button next to the condition you've just created, and use the pop-up menu to set up a second one: Sender Is Not In My Address Book. Click on the plus-sign button again and add a third condition: Sender Is Not In My Previous Recipients.

Now, under Perform The Following Actions, set the pop-up menus to Move Message To Mailbox: Junk. Then click on OK. (Don't have a Junk mailbox? Choose Mailbox: New Mailbox, use the pop-up menu to choose where the mailbox will go, give it the name Junk, and click on OK.)

Finally, create a second rule that's almost identical to the one you just made, with the exception of the Content-Type condition. Instead, this rule's first condition should be Any Attachment Name Ends With **.gif**. You'll get better results if you use two separate rules to look for these image-spam traits—together, they'll be able to catch any messages that contain either or both conditions.

**Microsoft Entourage Rules** Entourage's rules can't see an attachment's name, but they can look for the Content-Type header. To create an image-spam filter in Entourage, choose Tools: Rules. From the New pop-up menu, choose your account type (POP, IMAP, Hotmail, or Exchange). Name the rule and then create the criterion Specific Header **Content-Type** Contains **multipart/related**. For the actions, choose

## TRY THIS

### 3 iChat Tips

Here are some tricks that will make your life easier when you're using Apple's chat program.

**1 Stalkers Begone** Find yourself leaving iChat turned off just to avoid a certain someone who sends you 100 messages a day? You don't need to hide or get a new AIM or .Mac address. Instead, go to iChat: Preferences and click on the Security tab. Select the Block Specific People option and then click on Edit List. Enter as many addresses as you like, and click on OK. Poof! The people you've blocked will see you go offline in their Buddy Lists—forever.

**2 Break Up Your Prose** If you've tried to send a friend a list in iChat, you may have been vexed by your inability to make line breaks. Instead, when you press return your text is sent. There's an easy fix. To create a line break, press option-return.

**3 Choose Text Chats** If you always prefer text chats, it probably annoys you to see the How Would You Like To Chat dialog box every time you start a chat by selecting a buddy's name from the iChat menu in your menu bar. This box appears if you've selected a video- or audio-capable buddy, but by default you can't use your keyboard to pick your chat method. To change that, go to the Keyboard & Mouse preference pane, click on Keyboard Shortcuts, and choose the All Controls option under Full Keyboard Access. Now when the dialog box appears, the text-chat icon is selected by default. (Press tab to select audio or video.) Press the spacebar, and your chat window opens—no mouse required.—SCHOLLE SAWYER MCFARLAND



Change Status and then Junk E-mail, and if you wish, choose Move Message to Junk E-mail.

Whether you use Mail or Entourage, check your junk-mail folder periodically, in case legitimate e-mail gets snagged.

#### Use Undercover E-mail Addresses

Let's say you've purchased something online and given the retailer your

e-mail address (so you can get shipping confirmation). Later, when the spam starts rolling in, you suspect that this merchant gave away or sold your address—or that it was stolen from the merchant's servers. If you've used the same address at many sites, you'll never know for sure.

Worse yet, if you used your *main* e-mail address, getting rid of this spam-saturated account will involve a lot of hassle. A better idea is to give merchants a unique address that feeds into your main e-mail account. You will not only have a pretty good idea where spammers got your information, but also be in a good position to do something about it.

**Use Modified Addresses** Many mail providers, including Google's Gmail ([macworld.com/2445](http://macworld.com/2445)), let you use a special trick to track down the source of unwanted messages. For instance, if your Gmail address is example@gmail.com, simply add a plus sign and other text (such as the name of the site that's asking you to enter your e-mail address) between your user name and the @ symbol—say, example+macworld.com@gmail.com.



**Eliminate Image Spam** In Mail, set up a rule like this one to eliminate most image spam. It will catch messages that have **multipart/related** in the Content-Type header and that are from people you don't normally correspond with.



When Gmail receives a message sent to that address, it ignores the `+macworld.com` part and delivers the message to your regular inbox. But you can see the full address in the To address field in any message you receive, so you can tell at a glance where you gave out that address. (To see if this works with your e-mail provider, send yourself a test message.) If that address starts receiving too much spam, just set up a filter to delete messages addressed to it. With Gmail, click on the Create A Filter link, put the problematic address in the To field, and click on Next Step. Then select the Delete It option and click on Create Filter.

**Use .Mac Aliases** If you're a .Mac member, the service offers a special feature designed to help curtail spam—e-mail *aliases* to use whenever you post to a forum or register with a site. The mail sent to these addresses goes to your existing .Mac inbox, but it's easy to cancel an alias if it becomes flooded with spam. (Your main e-mail address remains untouched.) You can even use a color label—or, in Mail, a rule—to easily identify which messages were sent to which address.

Go to [www.mac.com](http://www.mac.com), click on the Mail link, and log in. Then click on the Preferences link at the top of the window and click on Aliases (see “Disposable Addresses”). Click on the Add Alias link to create a new alias (up to a total of five); make sure you click on the blue Save button at the bottom of the window when you're done.

When you want to ditch an alias, come back to this page and delete it. Click on the X button to the right of the alias you want to get rid of. Click on the Save button at the bottom of the window when you're done.

#### Use Disposable E-mail Addresses

For people who don't use .Mac but do like the idea of having disposable e-mail addresses that feed into a main address, numerous companies provide a way to create unlimited disposable e-mail addresses, sometimes for a small annual fee. Examples are spamgourmet (free; [www.spamgourmet.com](http://www.spamgourmet.com)), Spamex (\$10 per year; [www.spamex.com](http://www.spamex.com)), Sneak-email (free; premium account, \$2 per month; [www.sneakemail.com](http://www.sneakemail.com)), Emailias (\$20 per year; [www.emailias.com](http://www.emailias.com)), and the SpamCon Foundation's SpamCon (free; premium accounts, \$20 per year; [macworld.com/2446](http://macworld.com/2446)).

**Spam Tracking's Limitations** Using modified e-mail addresses is, unfortunately, not foolproof, so don't jump too hastily to the conclusion that a Web site has given away your address without permission. Some *spam robots*—programs that use, in some cases, thousands of hijacked computers at once to do nothing but send spam—try sending messages to every possible address at each domain.

#### Report Spammers

If you have a .Mac account, do yourself and other .Mac members a favor by forwarding any spam you receive to a special account at Apple. This enables

## Report the Rascals

**TIP** Figuring out where and how to send spam complaints can be challenging. To make the process easier, consider using Hendrickson Software Components' Em@ilCRX (\$30; [www.emailcrx.com](http://www.emailcrx.com)). This spam filter, which works with most common Mac e-mail programs, not only reduces junk mail in your inbox but also gives you the option of automatically sending information about spammers to their ISPs. When you do, it also updates a central database that assists authorities in tracking down illegal spamming activity.



Apple to improve its server-side spam filtering, so similar messages will not appear in your inbox in the future.

Before you forward spam to Apple, you must display the message's full headers, to provide enough information to track the message. In Mail, choose View: Message: Long Headers and then forward the message to `spam@mac.com`. In Entourage, choose View: Source, and then copy the entire contents of that window into a new message addressed to `spam@mac.com`.

If you have a non-.Mac e-mail account, you can still report spammers to your ISP and theirs (for one way to do this, see “Report the Rascals”). Although this might not do much to shut down a spamming operation, it can certainly give system administrators information that will help them filter e-mail more effectively.

#### Reclaim Your Inbox

As more people take measures to stop junk mail, spammers are bound to become even sneakier. But don't be discouraged. By keeping your tactics up-to-date, you can keep even the trickiest unwanted e-mails from overwhelming your inbox. ☒

**Joe Kissell** is the senior editor of TidBits and the author of *Real World Mac Maintenance and Backups* (Peachpit Press, 2006).



**Disposable Addresses** If you're a .Mac member, you can configure as many as five new addresses, called *aliases*, that deliver mail to your existing inbox. If one address starts getting lots of spam, simply delete it.



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## FEATURES



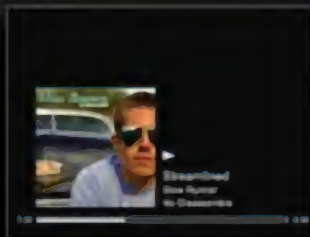
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# Find Free Music

Go online for no-cost, legal tunes **BY MATHEW HONAN**

**E**very Tuesday, Apple posts free songs on the iTunes Store, a no-cost—and legal—way to add more than 100 new tracks to your library over the course of a year. Unfortunately, you won't necessarily *want* to add many of these songs to your library. But luckily, the iTunes Store isn't the only way to legally obtain free music on the Internet. With a little effort, you can find music that won't cost you a dime or get you in hot water with the RIAA.

## Podcasts

When it comes to podcasts, most people think of news and talk programs. Yet many of these regularly updated Internet radio shows, which can be automatically delivered via iTunes, are excellent sources of new music. Whether your thing is jazz, rock, pop, electronic, or world music, there's a podcast to suit your tastes. Better yet, you can be assured that any podcasts you subscribe to via the iTunes Store have had their copyrights cleared—so you won't be receiving a subpoena for subscribing.

Finding new music podcasts couldn't be easier. Log in to the iTunes Store and click on the navigation menu's Podcasts link in the top left of the window. Then click on the Music link in the Categories box on the left. You'll find the 25 most popular podcasts listed on the right side of the page. You'll also see a New And Notable list of music podcasts across the top of the page; Apple hand-picks all of these podcasts, as well as

## Four Prime Podcasts

You'll find a number of cool music podcasts on iTunes—here are four of my favorites.

- 1 IndieFeed** With modern-rock, electronica, hip-hop, and blues podcasts, IndieFeed has you covered no matter what your tastes are.
- 2 KCRW's Morning Becomes Eclectic** The podcast edition of Nic Harcourt's long-running radio show from Los Angeles features live music in every conceivable category.
- 3 The Dead Show** For Grateful Dead fans, it's all about the live experience. This weekly hour-long program from KOPN in Columbia, Missouri, will have you goin' down the road feelin' good.
- 4 fitPod.com fitMix Archives** Though you'll find this in iTunes' Health section of podcasts, it's a great choice if you're looking for workout music. With a steady tempo to set your pace, fitPod's hour-long tracks keep you moving.

the podcasts in the Featured Podcasts list that takes up most of the page (see "iTunes Music Podcasts"). To view all the music podcasts available at the iTunes Store, click on the See All link in the top right corner of the Featured box. (To help you get started, I've picked a few of my favorite podcasts—see "Four Prime Podcasts.")

Music podcasts tend to fall into one of two categories: "song-a-day" podcasts and live podcasts. Song-a-day versions typically publish a new song daily (or weekly) and tend to be genre-specific, although some, such as NPR's *All Songs Considered*, can be all over the map. Live podcasts tend to be updated less frequently, but they often feature a full hour of live music when they are. While some are also genre-specific, more are eclectic mixes featuring a variety of bands and styles, often recorded at radio stations or at live performances.

When you find a podcast you like, click on its Subscribe button; iTunes will start downloading new episodes. If you're worried about podcasts taking up too much space, or if you want to make sure iTunes doesn't delete your podcasts unexpectedly, you'll need to set up

iTunes' podcast preferences. To do so, click on Podcasts in your iTunes Source list and then click on the Settings button at the bottom of the window (you can also go to iTunes: Preferences and click on the Podcasts tab). When the Podcasts preference pane appears, you can choose how often iTunes looks for new episodes, what to do when it finds them, and which ones to keep. If you want to build up your collection, make sure that you've selected All Episodes from the Keep drop-down menu.

## The Blogosphere

Just as not all podcasts are about news, not all blogs are about politics, technology, or personal issues—many are entirely about music. Music blogs not only can deliver MP3s right to your desktop, but also typically feature write-ups of the featured artists and songs. Since many of these blogs tend to focus on a single genre or even one artist, finding blogs that appeal to your particular interests won't be too difficult. A good place to start is The Hype Machine ([hype.nonstandard.net](http://hype.nonstandard.net)), an MP3 aggregator blog where you can see

## playlist Want more tips on digital music?

For iPod- and iTunes-related expert advice and breaking news, as well as reviews of all the latest gadgets, check out Playlistmag.com.



tracks currently posted by bloggers all across the Web (you can see a few of my favorite music blogs in "A Bounty of Blogs").

With help from a newsreader application, you can ensure that all the newest entries from your favorite music blogs are downloaded every day, without your having to manually point your browser to the site. And you can set your newsreader to import any attached MP3 or other audio files directly into iTunes. Be aware, however, that while the best blogs tend to make an effort to post only legal music and to respect artists' copyrights—sharing songs on artist pages or live tracks, for example—many others follow a post-now, worry-later philosophy. At the very least, MP3 blogs are a good way to discover new music that you can purchase later.

## A Bounty of Blogs

Music blogs can be a great source of free music. These five will help you get started.

**1 largehearted boy** ([blog.largeheartedboy.com](http://blog.largeheartedboy.com)): Daily free and legal downloads from independent and unsigned musicians share space with some of the Web's best music writing.

**2 Said the Gramophone** ([www.saidthegramophone.com](http://www.saidthegramophone.com)): Featuring everything from obscure Turkish folk music to indie Scottish pop, this venerable MP3 blog always serves up something delightful.

**3 Honey, Where You Been So Long?** ([www.prewarblues.org](http://www.prewarblues.org)): The epitome of a narrow-interest site, this cool blog focuses exclusively on pre-World War II blues music.

**4 Here Comes the Flood** ([blogger.xs4all.nl/werksman](http://blogger.xs4all.nl/werksman)): This site is all about the live music experience, with an emphasis on jam bands and classic rock.

**5 Soul Sides** ([www.soul-sides.com](http://www.soul-sides.com)): Passion meets professionalism at Soul Sides, where music writer Oliver Wang takes you on a tour of his favorite soul, hip-hop, and DJ-related tracks.

## Other Internet Sources

The Internet is loaded with free music just waiting for you to download. Despite the recording industry's constant reminders that online music isn't free, its member labels are actually some of the best sources for free music. Sony

Music ([www.sonymusic.com](http://www.sonymusic.com)) and Columbia Records ([www.columbiarecords.com](http://www.columbiarecords.com)) both put streaming tracks from many of their new artists online, while several smaller labels, such as Matador Records ([www.matadorrecords.com](http://www.matadorrecords.com)) and Sub Pop Records ([www.subpop.com](http://www.subpop.com)), post online MP3s, which you can download and add to your iTunes library.

**Audio Archive** The Internet Archive's Audio Archive ([macworld.com/2522](http://macworld.com/2522)) holds a massive library of live music from hundreds of bands; these open-source tunes can be freely shared, thanks to Creative Commons licenses, public-domain recordings, and much more. Much of this music is available as MP3 audio, so all you need to do is download it and then drag and drop it into iTunes.

**BitTorrent** Another way to tap into a mother lode of free, legal music requires some special software called BitTorrent ([www.bittorrent.com](http://www.bittorrent.com)). BitTorrent is designed for downloading large files, and it's particularly useful for multimedia because it divides the task of distributing a file between many users, rather than using one central server. Many sites that host music now use BitTorrent to save on bandwidth costs. One such site, the etree.org Community BitTorrent Tracker ([bt.etree.org](http://bt.etree.org)), is among the Internet's longest-running sources of live music. On this site, you'll find a very diverse selection of music, from jam-band The String Cheese Incident to punk-rock pioneer Mike Watt. Note that many of these



**iTunes Music Podcasts** Music podcasts found at the iTunes Store come in genres to suit any listener.

files are available only in the lossless FLAC or SHN formats, and you'll need a tool such as Scott Brown's free xACT ([macworld.com/2459](http://macworld.com/2459)) to convert them to an iTunes-friendly format.

You can find another large repository of legal tunes at LegalTorrents ([www.legaltorrents.com](http://www.legaltorrents.com)); all the music here has been licensed by its creators for free distribution. LegalTorrents' tracks are just as likely to be in MP3 format as in FLAC, and you'll also find some WAV and AIFF files (iTunes supports both of these formats).

**Streaming from Rhapsody and Napster** Have you ever wanted to hear a song just once, without having to pay for it or permanently add it to your library? If so, you may have a good reason to check out two iTunes competitors: Rhapsody ([www.rhapsody.com](http://www.rhapsody.com)) and Napster ([www.napster.com](http://www.napster.com)). Although the music-library-management software for these two applications is Windows-only, and you can't import tracks into iTunes, you can access the full music catalogs of both sites via the Web to freely listen to music on demand. Rhapsody requires a browser plug-in, while Napster doesn't. However, both services limit your listening unless you sign up for a paid account. Rhapsody allows 25 plays per month, while Napster limits you to three listens per song. ❌

**Mathew Honan** writes about technology for the *National Journal's Technology Daily* and *Wired*. He keeps a Mac-oriented blog at [mac.honan.net](http://mac.honan.net).



# Eliminate Color Casts

The white-balance menu is the key to accurate color **BY DERRICK STORY**

**A**ccurate exposure, faithful color, and sharp focus are the technical cornerstones of good photography. Of the three, color is the most often overlooked—many indoor shots end up with a dark reddish tint, while many outdoor snapshots end up blue and lifeless. But there's plenty you can do to avoid these problems—even if you're using a basic point-and-shoot digital camera. The key is understanding your camera's white-balance settings.

Of digital photography's many blessings, the white-balance menu is near the top of the list. Back when I was shooting on film, I needed several filters to help me capture semi-accurate color. Every time lighting conditions changed, I had to stop, dig out the appropriate filter, and attach it to my lens—assuming, of course, that I hadn't left it in the pocket of a different coat the last time I was shooting. And after all this fussing, I was still often disappointed with the results.

Digital cameras eliminate the need for color-balancing filters by providing white-balance settings. Even a camera's automatic white-balance setting is often

more accurate than the elaborate combination of filters I used in the past. But it isn't always perfect. Just as your camera's light meter can be fooled in certain shooting conditions, so can its color-measurement system. In these cases, you'll need to take advantage of some of your camera's other white-balance options.

## Learning to See the Light

Different light sources produce light at different temperatures. The light from a typical desk lamp is about 2900 Kelvin. A neon bulb, by contrast, is around 6000 Kelvin. As light's temperature changes, so does its color. Higher temperatures produce cooler (bluish) tones, while lower temperatures produce warmer (reddish) tones. Our optical system adjusts with the light, providing us with a remarkably consistent view of the world. Cameras, on the other hand, have more trouble adjusting to their surroundings.

Your camera's automatic white-balance setting is calibrated for photographic daylight (5500 Kelvin). But the color temperature around us is always

in flux. The minute high clouds appear in the sky, for example, the light jumps to around 8000 Kelvin. If your camera fails to recognize the temperature change, your photo will take on a bluish tint—making skin tones appear somewhat lifeless. If you move indoors, where your main light source is a 100-watt incandescent bulb (which measures at around 2900 Kelvin), your picture will most likely have a very orange cast. Your camera can also become confused by scenes dominated by a single color, such as a broad green field.

To compensate for such situations, digital cameras offer a variety of white-balance settings (represented by icons), which work like traditional color filters, warming up or cooling down a scene as needed. For example, the cloudy setting (represented by a cloud icon) is the digital equivalent of a warming filter and is perfect for warming up skin tones on an overcast day. Likewise, the tungsten setting (typically given a light-bulb icon) acts as a cooling filter, compensating for warm indoor lighting.

Many cameras include additional white-balance settings that offer subtle



## One Shot Three Ways

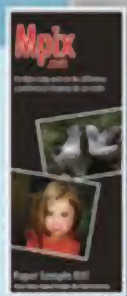
When you're shooting in the shade, the camera's automatic white-balance setting can result in an image that's a little too cool (left). By switching to the cloudy setting you can warm up those skin tones—perhaps a bit too much in this case (center). The most accurate approach is to create a custom white-balance setting (right). I used the ExpoDisc, but a sheet of white paper would have worked, too.



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variations on the tungsten and cloudy filters. For example, shade and flash settings both act as warming filters (the color temperature of light in open shade is 9000 Kelvin, while an electronic flash is 6000 Kelvin). The warming effect of these settings tends to be more powerful than the cloudy setting—in fact, it's often a little too strong for my taste. A sunset setting, on the other hand, cools colors (it produces a stronger effect than tungsten). That's because the light at dawn and dusk is usually very warm, around 2200 Kelvin.

Once you understand how your camera's white-balance settings work, you can use them to creatively control an image's tones. For example, you could emphasize loneliness in an outdoor portrait by switching to the tungsten setting, thus giving your photo cool bluish tones (see "Creative Color"). When shooting at high altitude, where the light can be very bluish, you might consider switching to the cloudy setting to warm up the tones in your landscape, even if there's not a cloud in the sky.

## Which Fluorescent?

**TIP** You may notice two white-balance settings for fluorescent light: Fluorescent and Fluorescent H. This is because not all fluorescent bulbs produce the same type of light. Typical warm-white and cool-white fluorescent bulbs tend to produce a greenish cast. For these, you'll want to use the Fluorescent setting. Some newer fluorescent tubes are balanced to better simulate daylight. For these, the Fluorescent H setting will probably provide better results, because it's more closely matched to the fluorescent daylight spectrum.

How do you tell which type of tube is which? Just look at your skin tones while standing in the room. Your skin will look more natural (and just plain better) under daylight-balanced tubes than under standard fluorescent light.

## Customize Your White Balance

If you're having trouble finding the correct white-balance setting, or if you're shooting in a particularly challenging location—museums, for example, often use halogen lights, which most cameras don't offer an option for—you may be able to have the camera do the hard work for you.

Most digital cameras offer a custom white-balance mode. When you activate this mode, your camera measures the current light temperature and creates a precise white-balance setting to match it. The camera will preserve that custom setting until you switch to another white-balance mode. Technically speaking, this is an extremely sophisticated feat, but creating a custom white balance is relatively easy. In fact, there are a few ways to go about it:

**White Sheet of Paper** Position a white sheet of paper so that the dominant light source reflects off it. Select your camera's custom white-balance setting, make sure the paper fills the frame, and then press the shutter button.

**Coffee Filter** Although the white-paper method works well, sheets of paper tend to flop around, so they can be challenging subjects.

An easier option is to use a coffee filter. Select the custom white-balance setting, hold the coffee filter over the camera lens, and point your camera toward the dominant light source. I recommend turning off your camera's autofocus mode when you use this technique, so you don't drive the focusing system crazy. (If you have a compact camera, set the camera to infinity mode.) When you press the shutter, the camera will calculate the appropriate white-balance setting.

**ExpoDisc** For people willing to spend a little money to get accurate color from a camera, I find that the



**Creative Color** White-balance settings are useful for creative purposes, too. When taking this photo, I used the tungsten setting to convey a somber mood.

most convenient option is the stylish ExpoDisc, by ExpoImaging ([www.expoimaging.net](http://www.expoimaging.net)). This calibrated filter snaps onto the front of your lens, for highly accurate, hands-free white-balance measurement. It even comes with a neck lanyard, so the filter's always handy while you're working. ExpoDisc prices range from \$100 to \$200, depending on the size (if you don't want to buy multiple versions to match each of your lenses, get an ExpoDisc that covers your largest-diameter lens and then simply hold it in front of your other lenses).

Fixing your white balance with the ExpoDisc is similar to using a coffee filter. Choose the custom white-balance setting, attach the filter to your lens, and point it toward the light source. Remember to turn off the autofocus when you're taking the reading, and then turn it back on once everything is set.

## Back to the Beginning

Even if you're shooting in the Raw format, you should try to capture accurate color. By spending a few seconds adjusting your camera, you can spare yourself a lot of postprocessing work.

And no matter which technique you embrace, once you're done shooting, return to the automatic white-balance setting. It's the best choice when you need to grab a shot in a hurry. ☒

**Derrick Story** is a professional photographer, author, and teacher. For more photo tips, listen to his podcast at [www.thedigitalstory.com](http://www.thedigitalstory.com).



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# Living a Second Life

Maximize your experience in the virtual world **BY JOE HUTSKO**

**Y**ou've no doubt heard the buzz about Second Life ([www.secondlife.com](http://www.secondlife.com)), the online world where people create virtual second selves. Mac users are as welcome as anyone else in this world, but the simulation was originally developed for Windows, so some aspects of Second Life work differently on a Mac. Here's how to make yourself at home in Second Life with the least amount of real-life stress.

## Getting Started

Even if you've never explored Second Life—or any other virtual world—it's easy to start the process. Download the program, install it, and follow the prompts to create a new account. Log

in, and a series of prompts guides you through the basics, such as how to interact with the environment and how to customize your character's look. This avatar can be whomever (or whatever) you want. A free-spirited beach boy? A seductress in stilettos? A cat with tattoos and a wizard's cap? Your appearance is entirely up to you.

This freedom also applies to what you do with your new persona. You can simply wander—or fly—from one location to another, taking in the sights and chatting with your fellow virtual residents. Or you can stake a claim, buying some virtual land (with Second Life's currency, Linden Dollars) and starting your own virtual business (which some Second Lifers are turning into real-world bucks).

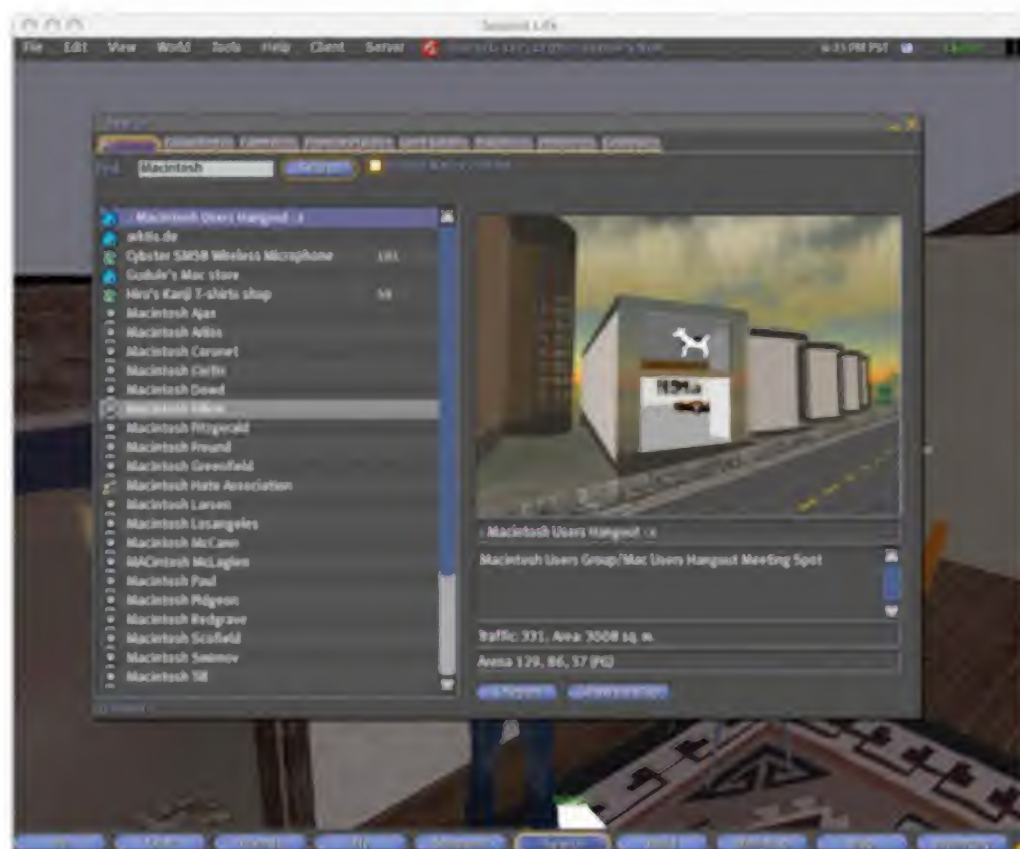
For further tips in Second Life, click on the Search button at the bottom of the screen to open the search tool. Type in **orientation island** to locate, and then teleport to, the place where new Second Life folks can get acquainted with what's what. When you're ready to explore more, click on the Places tab in the search tool, type **Macintosh** in the Find field, click on Macintosh User Hangout, and then click on Teleport to instantly transport to a place frequented by Mac folks (see "Look for Mac Users"). Mosey over to the corkboard on the wall to view and post messages, and meet for live chats with other Mac users.

## Fumble Fingers

Many of the problems Mac users first encounter in Second Life have to do with keyboard and mouse commands.

For example, right-clicking is essential in Second Life. The software assumes that you have a two-button mouse for interacting with the environment and objects. If you don't have one, use the standard control-click to simulate a right-click. MacBook owners can also hold two fingertips on the trackpad while clicking the trackpad button to simulate a right-click. (To enable this feature, go to the Keyboard & Mouse preference pane's Trackpad tab, and select the Place Two Fingers On Trackpad And Click Button For Secondary Click option.)

For commands that call for the Windows alt key (such as controlling the camera through which you view your virtual world), Mac users press the option key instead. For example, you can switch between full-screen and windowed mode by holding down option and pressing return. You also use the option key to control the camera view. Move the cursor over what you want to zoom in on or away



**Look for Mac Users** Using Second Life's search tool, you can find the virtual hangouts of your fellow Mac users.



from; then hold down the option key as you click and hold down the mouse button. Now you can move the mouse up, down, and sideways to zoom in on an object, a character—even yourself.

If you're migrating from the Windows version of Second Life, take note: The page up and page down keys don't automatically control rising and descending in the Mac version. Instead, press F to start flying, and then you can press page up or page down to fly higher or lower.

### Living with Lagging

As you're getting familiar with the keyboard and mouse, you may get the feeling that your movements, clicks, and commands aren't happening in real time. The trouble isn't you; rather, it's a combination of the Second Life environment and your Mac's hardware.

This lag is by far the biggest headache I've encountered while playing Second Life on a Mac. Part of the problem has to do with bandwidth. Millions of bits must be rendered in real time as you and other people move within the Second Life universe. And all that processing has to be communicated back and forth over the Net. So both the processing power of your Mac and the speed of your Net connection have a big impact on your Second Life experience. If you have a choice, use your fastest Mac—the one with the most memory and the best video card—for Second Life, rather than your spare PowerBook G4.

Also, shut down any unnecessary applications that are running—Second Life needs all the processing attention and Net bandwidth it can grab.

### Life Adjustments

Another thing you can do to optimize performance is to make a few adjustments to Second Life's software. The following tweaks should help make Second Life feel more natural.

Choose Preferences from Second Life's Edit menu. Start with the Network tab. Increasing the maximum bandwidth dedicated to Second Life will make objects and fellow residents appear more quickly. But be careful—pushing the Maximum Bandwidth slider too far will bog down your Mac. Second Life's documentation recom-

## Second Life Opens Up

Second Life has always been a pretty open place where users can set up shop and sell virtual land, homes, clothing, jewelry, hairdos, and thousands of other invented objects. And Second Life's maker, Linden Labs, has recently expanded this already expansive universe by making its viewer software open source. For Mac users, that could mean a more enjoyable life in Second Life.

That's because Mac-savvy programmers can now tweak the Mac client, changing the look-and-feel or the command interface. Linden Labs will evaluate and approve modifications to the viewer, and programmers who get the nod will split the copyright with the company. Linden Labs will continue to update and offer an official Second Life viewer for users to download. The company also intends to open up the server software code that the virtual world of Second Life depends on; as of press time, no release date for that had yet been announced.



mends that you set the bandwidth rate to just below your Net connection's maximum upload speed. (To find out what that is, you can go to a free speed-test site such as Speakeasy Speed Test [[www.speakeasy.net/speedtest](http://www.speakeasy.net/speedtest)].) To see your actual performance statistics, press  $\#$ -shift-I. While you're in the Network tab, you can also set your disk cache. If you've got a lot of free hard-disk space, pick 1,000MB; otherwise, select as much as you can spare.

Now go to the Graphics tab. Select the Auto Detect option if it isn't already chosen. This allows the Second Life software to choose the best size and aspect-ratio settings for your Mac. If you have a wide-screen display, feel free to override that setting and choose 16:9 (wide-screen). Now set Draw Distance to 128 meters, which will let you see a reasonable distance without overtaxing your Mac.

Next, click on the Graphics Detail tab. The rule here is simple: Lowering the detail settings will improve overall performance. Deselect all the options in the shaders; that'll sacrifice some object shininess and water special effects, but you'll gain performance. (Some of those options may be grayed out, depending on your hardware.) Choose Normal for Avatar Rendering, Sun And Moon Only, and Low for Terrain Detail. Set each of the four Mesh Detail sliders to the middle. If you want to max out one of them (at the expense of performance), choose Avatar Mesh Detail; that'll let you see your fellow Second Life residents in all

their glory. Experiment with the other Mesh Detail settings to determine whether the performance gains are worth the loss of detail.

The Adv. Graphics tab provides additional video options. You should turn Anisotropic Filtering off, keep the Gamma setting at 0.00, and leave the Nighttime Brightness setting at 1.0 (the default). Be sure to select the Enable AGP option if your Mac has a dedicated graphics card. (To find out, choose About This Mac from the Apple menu, and then click on the More Info button to launch System Profiler. Click on Graphics/Displays in the left column and look for the Bus entry; if your Mac has AGP, it'll say so there.) And choose the highest Graphics Card Memory option that isn't grayed out. Lowering the Fog Distance Ratio setting decreases overall visibility in the distance—a good thing when you're running Second Life on a slower Mac. Leave the Max. Particle Count and Outfit Composite Limit settings at their default rates (4,096 and 5, respectively). These ensure a reasonably fine environment and acceptable avatar-clothing detail and effects.

To finish, go to the Audio & Video tab and deselect the Play Streaming Music When Available option. That'll keep Second Life tunes from sucking up your bandwidth. Just remember to turn the option on again before attending a live music performance in Second Life. ☒

Joe Hutsko ([johutsko.com](http://johutsko.com)) writes about high-tech gadgets, gear, and games for *TV Guide* and *MSNBC.com*.



# Help Desk

## Mac OS X Hints

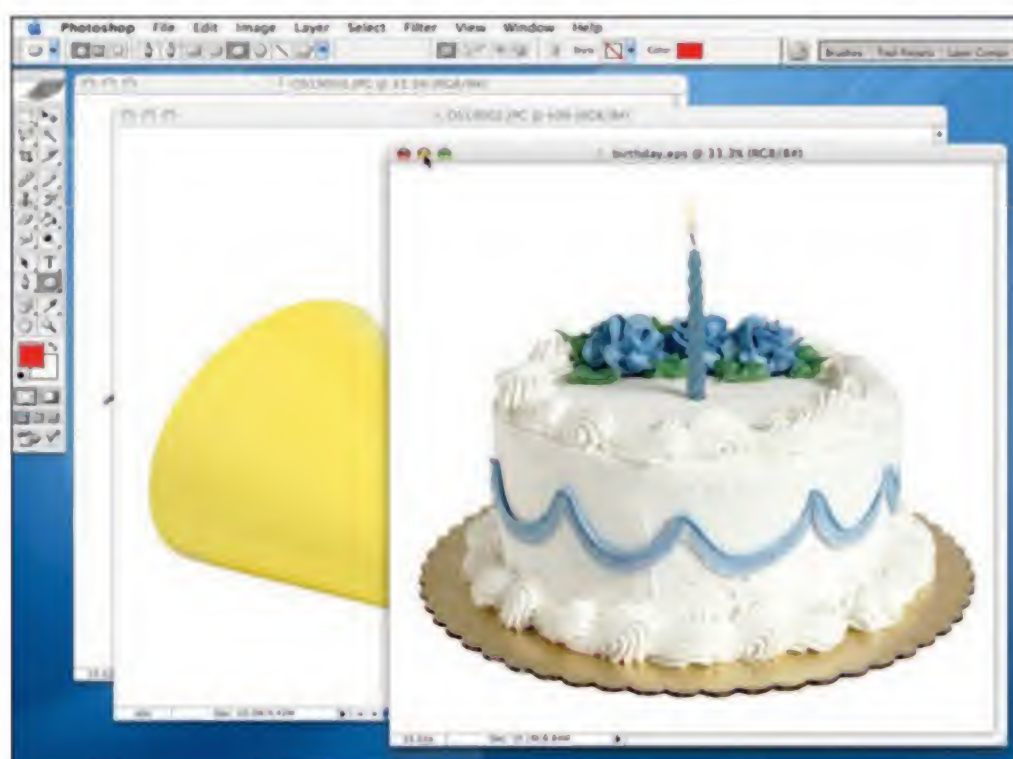
The insider tips you won't get from Apple **BY ROB GRIFFITHS AND KIRK MCELHEARN**

### Minimize All of a Program's Windows

OS X's window-minimizing feature shrinks an open window and stores it on the right-hand side of your Dock (as long as you haven't moved the Dock off the bottom of the screen). This is a handy way to leave a window open for future reference without having it take up space on your desktop. There are a couple of ways to minimize a window to the Dock—press  $\text{⌘}+M$ , or just click on the yellow button in the top left corner of an open window. When you need the window again, click on it in the Dock, and it will return to full size.

But what if you want to minimize *all* of an application's open windows? Try holding down the option key before clicking on the minimize button (see "Minimize an Application's Windows"). In most of Apple's applications and many others—including Adobe Photoshop CS2, Bare Bones Software's BBEdit, The Camino Project's Camino, Mozilla Firefox, and The Omni Group's OmniWeb—this trick will send all of that app's open windows to the Dock.

When you want the windows back, try option-clicking on any one of the



**Minimize an Application's Windows** Want to minimize *all* of an application's windows? Press option while clicking on one window's minimize button, and they'll all fly down to the Dock.

minimized windows in the Dock. Most of the time, they'll all expand. But there are exceptions—Photoshop and BBEdit, for instance. Experiment with your favorite program before you minimize 20 open windows—and then discover that you have to click on them one by one to expand them again.

### Select Text with One Click

Whether you're filling in an online form or entering a URL in your browser, it can be a pain to press the tab key repeatedly just to get to a text field and select its contents. Luckily, there's another way. In nearly all Apple applications, you can click on one of the field's edges to select all its text.

Hover your cursor over a text field and then move it to the field's edge—the cursor will change from an I-beam into an arrow. Click when the arrow appears, and you'll select the contents of the text field. (See a video of the process at [macworld.com/2478](http://macworld.com/2478).) This trick works in many other applications, too. Just try clicking on the edge of a text box in your favorite program, and see what happens.

### Easier Zooming via the Keyboard

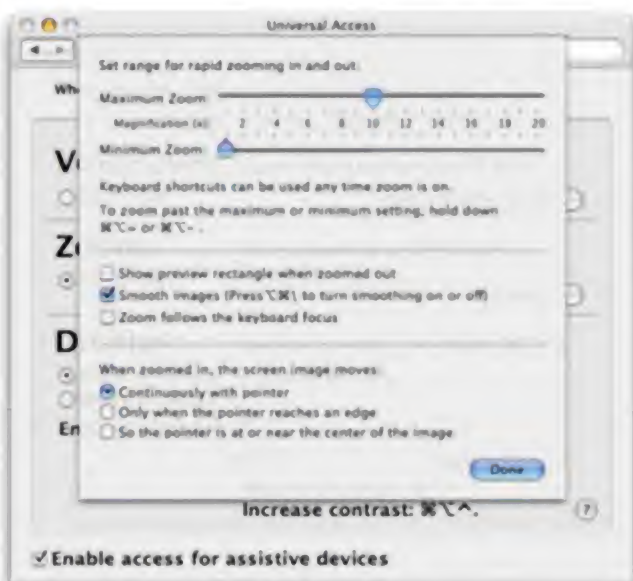
OS X 10.4.8 provides a useful new way to zoom in on your screen—hold down the control key and then scroll with your mouse's scroll wheel, the Mighty Mouse's scroll ball, or two fingers on

### Have a hint to share?

Go to [MacOSXHints.com](http://MacOSXHints.com) to submit it. This column was based on tips from Ryk A. Groetchen, David Stewart, and anonymous contributors. Each month, the author of our favorite tip receives the *Help Desk* mug.







**Max Zoom** To speed your return to the 100 percent view after using the new control-scroll zoom feature, set a maximum zoom level in the Universal Access preference pane.

the trackpad of your MacBook or MacBook Pro. The entire screen will zoom at the point where the cursor is. I use this feature quite a bit—for instance, to read a way-too-tiny font on a Web site or to make sure I select just the right area of the screen for a screenshot.

But I don't enjoy all the scrolling required to return to the 100 percent view. You can simplify matters a bit by going to the Universal Access preference pane, clicking on Seeing, and selecting the On option under Zoom. Then, after zooming in on your screen, you can hold down  $\text{⌘}$ -option-hyphen (-) until the zoom level reaches 100 percent again—though this can be annoying, too (when I'm done zooming, I want to get back to the normal view as quickly as possible).

So here's a trick: Visit the Universal Access preference pane and click on the Options button in the Zoom section (make sure Zoom is set to On before you click). Now move the Maximum Zoom slider to anything other than the leftmost position (see "Max Zoom"). The value you pick will affect *only* zooming

## WHAT'S ONLINE

**Open Unix Manual Pages in Preview** Learn a simple way to open Unix manual pages in OS X 10.4's Preview ([macworld.com/2481](http://macworld.com/2481)).

**See What the Installer Will Install** See what any program that uses Apple's Installer will install, before it's installed ([macworld.com/2482](http://macworld.com/2482)).

**Resize iTunes Videos Contextually** Discover yet another way to resize iTunes' video playback window ([macworld.com/2483](http://macworld.com/2483)).



via the Universal Access keyboard shortcuts—not the control-key shortcut. Click on Done. Now zoom in as normal, and when you're done, press  $\text{⌘}$ -option-hyphen just once. Voilà! The screen will automatically return to 100 percent resolution.

### Tame Address Book's Envelope Printing

As of OS X 10.4, Address Book (/Applications) can print envelopes. Select an address in Address Book, select File: Print, set the Style pop-up menu to Envelopes, choose the correct envelope size from the Layout menu, and then click on Print. But using this feature can be very frustrating, as I found out while trying to send my holiday cards.

For example, take one of the program's potentially cool features—the ability to automatically print a spouse's name on an envelope. You add a spouse's name when you're editing a contact. Click on the pop-up menu below the Work or Home E-mail one and change it from Friend to Spouse. Then type in the spouse's first and last name. (Don't see these fields? Click on the Edit button at the bottom of the Address Book window to enter Edit mode.) If you've added a spouse's name, Address Book will insert it in the printed address; for example, when you print an envelope for your contact Sally Sample, *Sally and Steve Sample* will appear. (If the spouse has a different last name, the envelope will be



## POWER TIP OF THE MONTH

### Tidy Up Your HTML

If you write HTML by hand, you may already be familiar with Tidy, an open-source program that checks your code; tells you where there are errors; and, in some cases, corrects them. Tidy is available for many platforms, and it's included in certain text editors, such as Bare Bones Software's \$125 BBEdit ([macworld.com/2414](http://macworld.com/2414)).

OS X 10.4 includes a command-line version of Tidy, located at /usr/bin/tidy. You can use it to generate cleaned-up versions of HTML, XML, and XHTML files, and you can even convert files between these formats. For example, here's the command you'd type in Terminal (/Applications/Utilities) to convert HTML to XML and output the results to a new file (press control-D after the output is finished). You would, of course, replace *test.html* and *new.xml* with the name of your original file and the name of the one you'd like to create:

```
tidy -asxml test.html -output new.xml
```

If you just wanted to display errors and quit, you'd use this command:

```
tidy -errors test.html
```

If you wanted to change all your tags to upper case, you'd enter:

```
tidy -upper test.html
```

For more on using the command-line version of Tidy, type `man tidy` in Terminal. If you don't want to use the command line, and don't work with BBEdit or another text editor that includes Tidy, you can install Tidy Service ([macworld.com/2480](http://macworld.com/2480)), which adds Tidy's functionality to your Services menu, for use with Cocoa applications.

However you use it, Tidy will help you not only write correct HTML code but also clean up any unnecessary tags. It can save you time and make your Web pages better and more efficient. —KIRK MCELHEARN





# X OS X 101

## Spotlight on Spotlight

One of OS X 10.4's most touted features is Spotlight, a constantly updated index of pretty much everything on your Mac. When you first install OS X, Spotlight begins creating its index, and then it updates that index regularly as you add new files to your system. It also indexes *metadata*, or data about data—for example, the date a picture was taken, the shutter speed used, and so on.

Access Spotlight by pressing **⌘-spacebar**. A search field drops down from the top right corner of the screen. Spotlight goes to work as soon as you begin to type here—even before you press return. Alternatively, you can press **⌘-option-spacebar** to bring up a larger Spotlight search window.

You can find nearly any file, as long as you can remember something about it—say, the title or a key phrase it contains. The more words you're able to give Spotlight, the more accurate the matches will be. Search for *the*, and you'll probably get thousands of results. Search for *the yellow submarine*, though, and your results will be much more specific. Spotlight can search iChat transcripts, Mail and Entourage e-mail messages, Address Book contacts, iCal calendar files, Word and Excel documents, and PDF files. It can also search for information in JPEG, PNG, TIFF, and GIF images; MP3 and AAC audio files; and QuickTime movies.

**Seek Friendly Programs** Some particularly Spotlight-friendly applications do some work behind the scenes to make it possible to search their files' content. Take, for example, Delicious Monster's \$40 book- and media-management tool Delicious Library (**♦♦♦♦**); [macworld.com/0962](http://macworld.com/0962)). After you create your library, you can search for anything in it via Spotlight. A quick search for *Warner Home Video* on my Mac, for instance, found the 23 movies from that studio that I have. If you have a choice, choose programs that help you in this way.

To see a list of more than 50, go to [macworld.com/0630](http://macworld.com/0630).

**Simplify Your Index** Does your Mac contain some things that you don't want Spotlight to index? For example, I keep a backup of my Current Projects folder on my second internal hard drive. If left alone, Spotlight will find two matches for anything in that folder—one for the original and one for the backup. To tell Spotlight to ignore something, go to Spotlight's preference pane, click on the Privacy tab, click on the plus sign (+), and navigate to the folder you'd like to exclude.

**Jump through Spotlight's Results** As Spotlight finds matches for your search terms, it displays them in a drop-down window below the search box. The results are organized into categories, and you can use the up- and down-arrow keys to move from item to item. To move around in a hurry, though, use **⌘** and the up- or down-arrow key; pressing **⌘-down arrow** will jump to the first entry in the next category; **⌘-up arrow** will do the same in the previous category. To open a highlighted item, press return.

**Customize Spotlight's Search Data** If you use an application launcher, such as Peter Maurer's free Butler, Objective Development's \$20 LaunchBar, or Blacktree's free Quicksilver (see "Launch Your Productivity" at [macworld.com/2453](http://macworld.com/2453)), you don't need to use Spotlight to look for your programs. Take advantage of this fact to eliminate these matches from your search results and speed up Spotlight. Similarly, if you don't want Spotlight to search your iTunes library (something that launchers do very well), disable those results. Go to Spotlight's preference pane, click on the Search Results tab, and deselect items you don't want in your results. —ROB GRIFFITHS



addressed to *Sally Sample and Steve Smith*, for example.)

The maddening thing is, in my testing, this worked only some of the time. Finding this problem's cause and solution took some digging. The

problem is Address Book's fuzzy matching of first names. With the preceding example, if you have another Address Book contact for someone named Steve who has a different last name or address, Address Book will omit the spouse name when you print Sally Sample's entry. Oddly, you won't encounter this problem if you've coded the person as a partner instead of a spouse. But in that case, the envelope will be addressed slightly differently, to *Sally Sample and Steve*.

So what's the solution? If you're having trouble printing the spouse field, you must also create an Address Book entry for the spouse, and make sure that the address (as well as the last name) exactly matches what's in the first record. After I'd created an entry for Steve Sample, the envelope turned out right when I printed from

Sally's Address Book record. It's a pain, but it does work.

Even if the spouse has a card of his or her own, you must use both a first name and a last name in the Spouse field to make this work. If you don't enter a last name in the spouse field, Address Book will print using the Partner format—with, for example, *and Steve* at the end. Note that you can use this to your advantage when you want to send cards to the more general *Sally Smith and Family*. Just type **Family** in the Spouse (or Partner) field. (For more Address Book printing tips, go to [macworld.com/2479](http://macworld.com/2479).) ☺

Senior Editor **Rob Griffiths** runs the Mac OS X-Hints.com Web site. **Kirk McElhearn** is the author of many Mac-related books, including *The Mac OS X Command Line: Unix Under the Hood* (Sybex, 2004).



**Custom Cards** Address Book can help you print the names of your contacts' spouses on envelopes.



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# Mac 911

Solutions to your most vexing Mac problems **BY CHRISTOPHER BREEN**

## Keeping Up-to-Date with iPhoto

**Q:** I've noticed the calendar icon that appears in iPhoto 6's lower left corner, but I'm not sure how to put it to good use. Any recommendations?

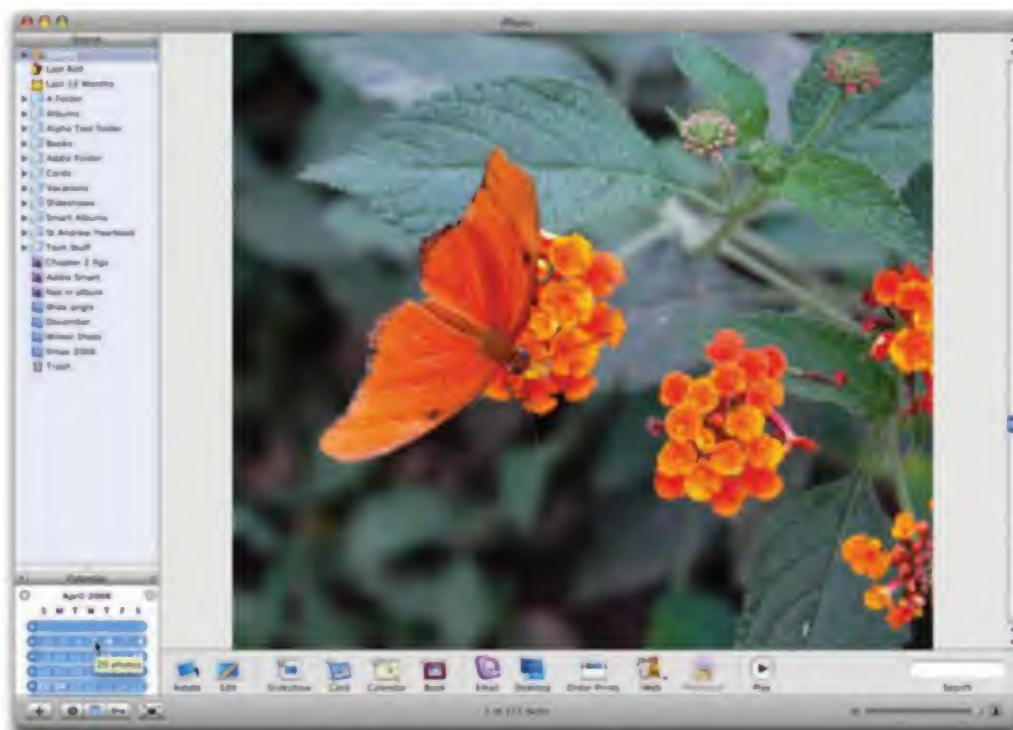
**Dale Carson**

**A:** You've discovered the much-overlooked calendar feature in Apple's iPhoto 6 (🔗; [macworld.com/1131](http://macworld.com/1131)), part of the \$79 iLife '06 suite. Click on this icon, and a list of months appears in the lower left corner of your iPhoto window. Select a month and then click on the small arrow to the left of the year to see a calendar view of that month.

The calendar provides some helpful ways to locate pictures in a crowded iPhoto library. For example, you can use it to find out in which months you shot pictures.

In year view, if the name of a month appears in black type, you shot pictures that month. If the name is in gray type, you didn't. The same idea applies to month view—days on which you took photos appear in black type; days on which you didn't appear in gray. Click on a date or month to reveal all the photos associated with that time period in the main iPhoto window.

You can also use the calendar to tally the number of pictures you took in a certain month or on a certain day. Hover your cursor over a month's



**Photos by Date** Hover your cursor over a date in black type in your iPhoto calendar to see how many pictures you took that day. Click on the number, and all the pictures appear in the iPhoto window.

name to reveal a tool tip indicating the number of pictures tagged for that month and year. For example, when I hover the cursor over April 2006, I see that I shot 217 photos that month. When you're in month view, hover over a date, and a tool tip reveals how many pictures you took that day (see "Photos by Date").

Here's a handy way to gather all the pictures you've taken for a recurring event—say, the winter holidays. Click on the triangle to the left of the year to reveal the month view. Then use the up arrow (next to the word Calendar) to move to December 2006. Click on the dot to the left of the week that includes your holiday event. This highlights that week. Move back to December 2005 and ⌘-click on the same special week. The past two years' worth of holiday pictures will now appear in iPhoto's main window.

Choose File: New Album From Selection and you've collected all your holiday photos in one place. If you want to be even more precise, choose specific days each month with this ⌘-click technique.

## Group Think

**Q:** In the January 2007 *Geek Factor*, "3 Amazing AppleScripts," I noticed that the author had seven iCal calendars subordinated under the category School. How do you make one or more calendars do this?

**Tom Ballen**

**A:** What you've witnessed is iCal's Group Calendar feature (found in the Mac OS X 10.4 version of Apple's iCal). To employ it, open iCal (in your /Applications folder) and choose File: New Calendar Group. A new group entry



## Have a problem?

Go to the Mac 911 forum ([macworld.com/2467](http://macworld.com/2467)) for help with your misbehaving Mac or applications.



appears in iCal's Calendars list. You can organize your calendars by dragging them into this group. For example, put all your kids' calendars or collections of sports teams' schedules here.

The group calendar feature offers a couple of advantages. The first is that you can easily reveal or hide all the calendars within a group by selecting or deselecting the box next to the group's name. The second is that you can publish a group as a single calendar to your .Mac account or a WebDAV server (by choosing Calendar: Publish); this solves the age-old iCal problem of how to generate a Web-based calendar that includes only the events from a single calendar.

### A Bit on Bit Rates

**Q:** The AAC version of *Macworld's* podcast is larger than the MP3 version. I thought AAC was based on MPEG-4, which is supposed to provide the same quality as MP3 but better compression. What gives?

Gino Vogt

**A:** You've got it partly right. Apple claims that AAC files sound better than MP3 files encoded at the same *bit rate*, which is the number of bits per second used to encode audio, represented in kilobits per second (Kbps). But the files are no smaller—in fact, AAC and MP3 files encoded at the same bit rate are usually about the same size. AAC just provides better sound at this bit rate than its MP3 counterpart.

In the case of the *Macworld* podcast, we're using the same bit rate for both the AAC and the MP3 versions—32 Kbps with mono sound. I wouldn't dream of encoding music at such a low bit rate, but for speech, it's a perfectly fine compromise—particularly when you consider how long it would take to download 45 minutes of audio encoded at music quality (and what it would cost to host such large files).

The AAC version is a touch larger because it's an enhanced podcast—one that includes pictures, links, and chapters. (If you haven't yet listened to our podcast, you can find it at [macworld.com/1103](http://macworld.com/1103).)

## Bugs & Fixes

BY TED LANDAU



**Firefox Security Breach** Like most Web browsers, Mozilla's free Firefox ([www.mozilla.com/2415](http://www.mozilla.com/2415)) lets you save passwords for sites

that require you to login. (Go to Firefox: Preferences, click on Security, and select the Remember Passwords For Sites option.) Firefox should enter your name and password *only* when you're at the appropriate login page. However, a security weakness allows a phony login page, located on the same server as the legitimate one (possible on sites such as MySpace.com), to obtain and send your password information to another site without your knowledge. It's a low-risk threat, but for now the only way to make sure no one can steal your passwords is to deselect the password option. To get rid of passwords you've already saved, click on the Show Passwords button and then click on Remove All.

Some users (including myself) have found that Safari reveals the same weakness. Use the test page at [macworld.com/2469](http://macworld.com/2469) to assess your browser's vulnerability.



**QX-Tools Pro and Quark Conflict** If you're using onOne

Software's \$100 QX-Tools Pro 7.0 ([www.ononesoftware.com](http://www.ononesoftware.com)), QuarkX-Press 7 may crash when you save certain—primarily older—files. Fix this minor bug by updating to QX-Tools Pro 7.0.1 or later.



**iPhoto Import Problem**

Apple's iPhoto may quit unexpectedly when importing movie files from a still camera. The likely cause is a problematic third-party QuickTime plug-in. Check the *your user folder/Library/QuickTime/* and */Library/QuickTime/* folders for plug-ins not installed by Mac OS X. Remove any that you find. Log out and log back in. If the problem disappears, a plug-in was the

culprit. If not, use another program, such as Image Capture (/Applications), to import the movie instead.



**Adobe's Vietnam Danger**

Do you use the \$599 Adobe Photoshop CS2 ([www.adobe.com/1057](http://www.adobe.com/1057)) or \$499 Adobe Illustrator CS2 ([www.adobe.com/2470](http://www.adobe.com/2470))? Check the /Applications/Adobe Photoshop CS2/Legal.localized/ and /Applications/Adobe Illustrator CS2/Legal.localized/ folders for a file called Tiếng Việt.html. If you find this file, delete it *immediately*. OS X can interpret the special characters as illegal file names, resulting in damage to your drive's directory that even Disk Utility's First Aid feature (/Applications/Utilities) can't fix. If you already have this damage, you'll probably get an error message that says "The underlying task reported failure" with a -9972 error code" when you run First Aid. If so, try another repair utility, such as Alsoft's \$100 DiskWarrior ([www.alfsoft.com](http://www.alfsoft.com)), or completely erase your drive and start over.



**Sync Problems** If you use the Sync pane in .Mac's preferences pane, you may get a message

that says: "There was a problem with the sync operation. .Mac legacy client exited abnormally." There may be an easy fix—open Disk Utility (/Applications/Utilities) and click on Repair Disk Permissions. If that doesn't work, you can try reinstalling Mac OS X completely, using the Archive And Install option.

Senior Contributor **Ted Landau** is the founder of MacFixIt ([www.macfixit.com](http://www.macfixit.com)), a Web site devoted to reporting Mac problems and solutions. Got a problem to report? E-mail [bugs@macworld.com](mailto:bugs@macworld.com) or post it in our Mac 911 forum at [Macworld.com](http://Macworld.com).

### Moving GarageBand Loops

**Q:** I am a huge fan of GarageBand. I have been using it for a few years now, and have only one major gripe. I've installed four GarageBand Jam Packs. These sound libraries take up a large chunk of my hard-drive space—nearly 17GB. I work on an iBook G4 that has only 25GB of

available space. Is there any way to move these Jam Packs to an external drive?

Zach Paull

**A:** There is. Apple's GarageBand (part of the \$79 iLife '06 suite; [www.apple.com/1134](http://www.apple.com/1134)) stores loops in two locations—/Library/



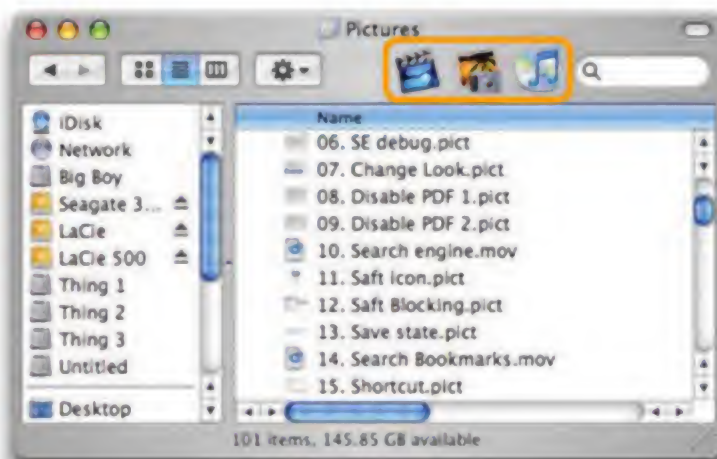
Audio/Apple Loops and /Library/Application Support/GarageBand/Apple Loops.

Dig into these folders until you find the folders that hold specific Jam Packs: for example, Jam Pack 2 – Remix Tools and Jam Pack 4 – Symphony Orchestra. Copy these folders to your external drive by dragging them there. Then drag the original folders to the desktop.

GarageBand will give no indication that it can't find its loops until you try to use one of them. Then it will display a dialog box indicating that it hasn't a clue where they are and asking if you'd like to reindex your loops. Click on Cancel.

Now locate the Jam Pack folders that you copied to your external drive and drag them into GarageBand's Loop Browser. GarageBand will acknowledge that you're attempting to add loops to the browser and ask if you'd like to keep the loops in their current location or copy them to the Loops folder. The correct answer is Current Location. Test your configuration by selecting one of the Jam Packs from the browser loops pop-up menu (the one that normally reads My Loops), choosing a sound, and previewing it. If GarageBand won't play it and instead shows you that reindexing dialog box, let GarageBand reindex the loops this time.

Once you're sure everything is working as it should, you can toss out the original loops folders that you moved to the desktop.



**Easier Access** To make it easier to launch applications and open deeply buried folders or files you use often, drag them into any Finder window's toolbar. From there, you can get to them with just one click, whenever you're looking at a Finder window.



## TOOLS OF THE TRADE

### DVD Conversion

You paid good money for your commercial DVDs, and it takes little more than a five-year-old armed with a jar of jam to destroy them. Use these tools to back them up.

**HandBrake** (free; [macworld.com/2468](http://macworld.com/2468)): I've tried just about every Mac DVD-ripping utility on earth. Many of them do a decent job, but they can't touch the complete capabilities that Eric Petit and Laurent Aima's tool offers for free. (For detailed instructions on how to use it to convert video for your iPod, see [macworld.com/1105](http://macworld.com/1105).) If you don't need HandBrake's many configuration options, choose its less full-featured sibling, Instant HandBrake (also free). Like HandBrake, Instant HandBrake can convert commercial DVDs to a format that's playable on your Mac, iPod, or Sony PSP.

**VisualHub** (\$23; [macworld.com/2428](http://macworld.com/2428)): My love for Techspansion's universal video converter for the Mac is nearly boundless. VisualHub can convert almost any video format you throw at it to iPod, PSP, DV, DVD, TiVo, AVI, MP4, WMV, MPEG, and Flash formats. It can even fit up to 18 hours of video on one DVD—though that video won't look pristine.

What does this have to do with your DVDs? Although Techspansion claims that VisualHub won't convert video from commercial DVDs, it has in many cases (though not always) done so successfully for me. For example, it ripped *Master and Commander* with no complaints but produced garbage when ripping my DVD collection of the first season of *Arrested Development*. (HandBrake had no problems with *Arrested Development*.)

Another bonus: VisualHub can help you put your converted content on a DVD (compressing it to fit on a single disc) and then burn it—no need to purchase additional tools such as Roxio's \$100 Toast or \$50 Popcorn 2 ([www.roxio.com](http://www.roxio.com)) or Erwin van den Berg's €40 DVD2oneX2 ([www.dvd2one.com](http://www.dvd2one.com)). Both of these utilities, however, do provide more flexible DVD-burning options than VisualHub.



### Icon, Begone!

**Q:** How do I remove or hide the hard-drive icon in the upper right corner of my desktop?

**Gene Dybinski**

**A:** Choose Finder: Preferences and, in the resulting window, click on the General tab if it's not selected already. Here you'll see the option to show specific items on the desktop. Simply deselect the Hard Disks option and your hard-drive icon will disappear from the desktop. If you want to, you can also remove hard-drive icons from the Finder window's sidebar.

Just click on the Sidebar tab in the Finder preferences pane and disable the Hard Disk option here as well.

Here's a little bonus tip: Just as it's easy to make icons disappear from places where you don't want them, you can also make an item (a volume, a folder, an application, or a file) appear in more places than usual. To add an item to the toolbar at the top of every Finder window, for instance, drag it to an open Finder window's toolbar. Hold it there for a couple of seconds until you see a green plus sign (+). Then let go of the mouse button and the item's icon will appear in the toolbar (see "Easier Access"). Should you later wish to remove it, hold down the  $\mathbb{H}$  key and drag it out of the toolbar.

Senior Editor **Christopher Breen** is the author of *The iPod and iTunes Pocket Guide*, second edition, and *Secrets of the iPod and iTunes*, sixth edition (Peachpit Press, 2007).



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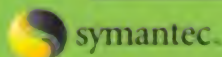
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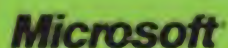
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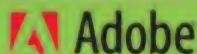


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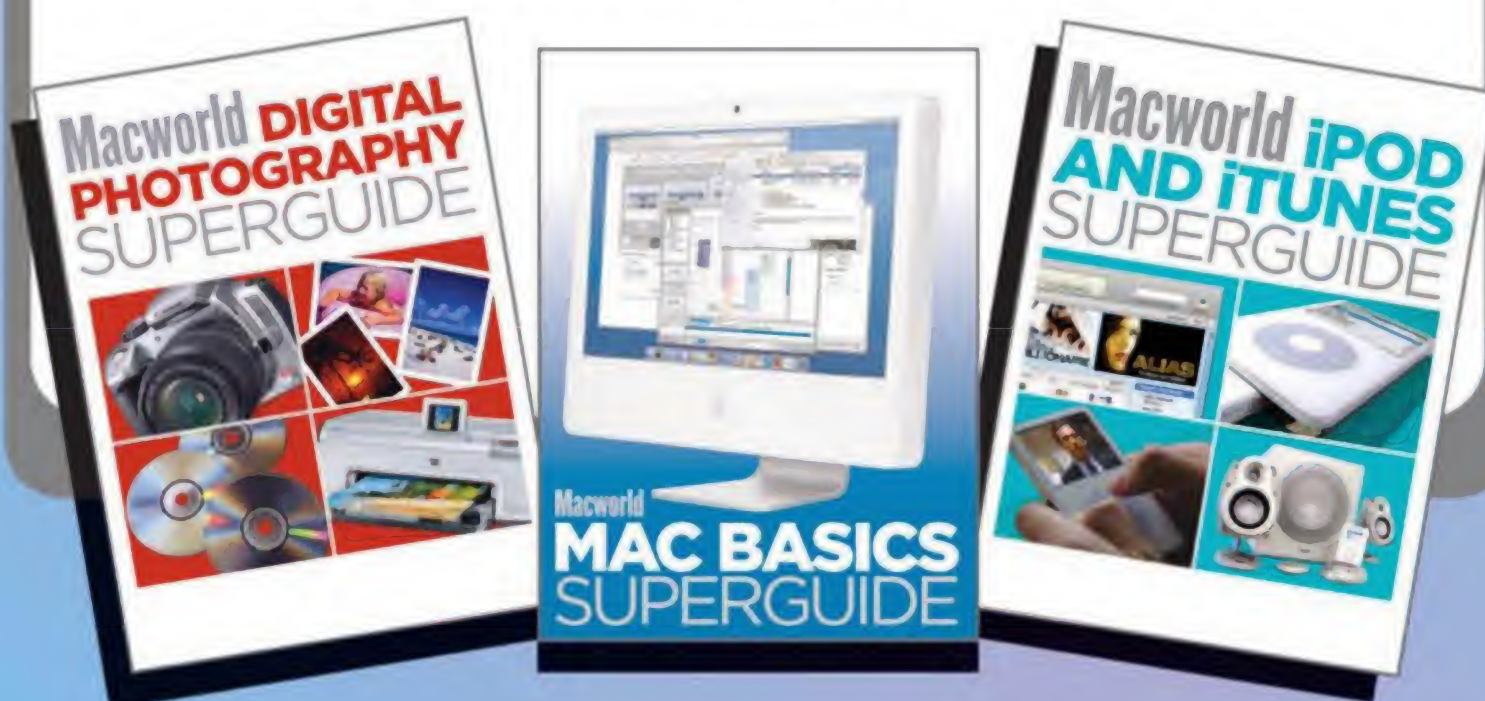


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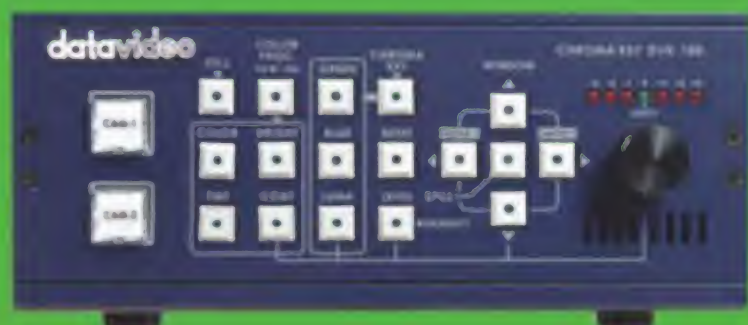
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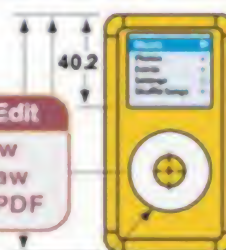
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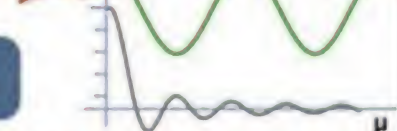
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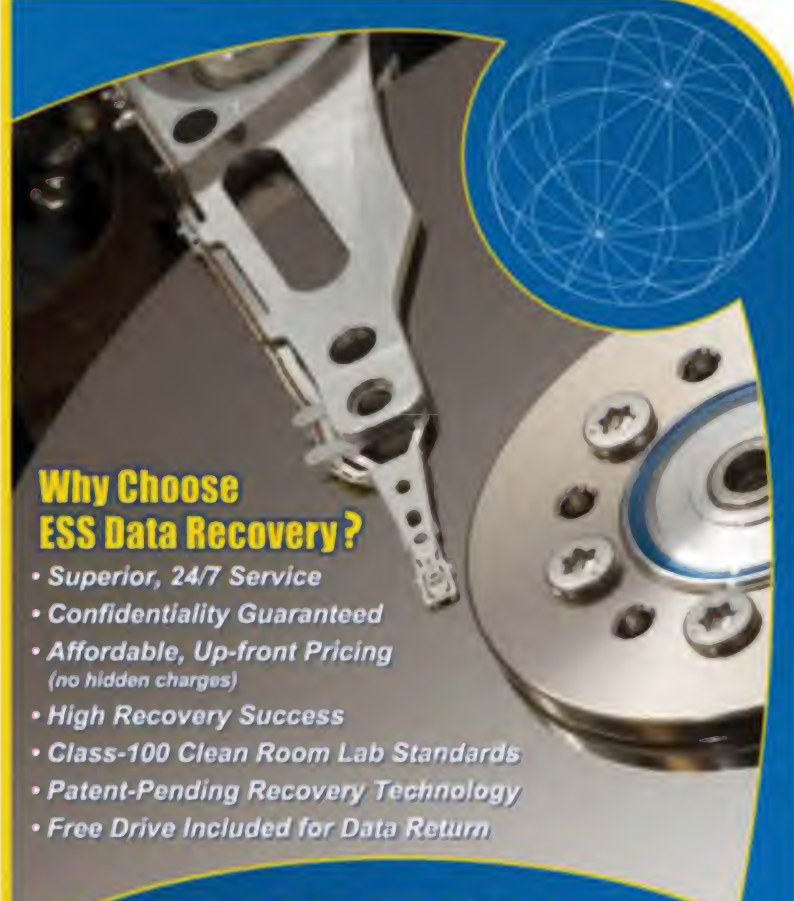


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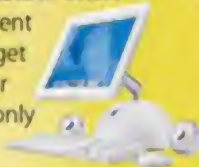
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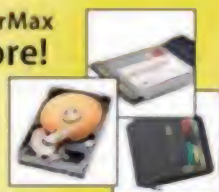
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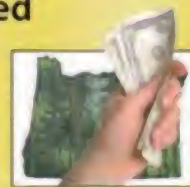
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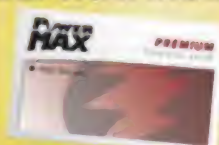
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# Apple's Computer, Incorporated

Never mind the name change—the Apple TV and iPhone are computers to the core

**A**t first glance, it might have seemed that the Mac was invisible at Macworld Expo. During Steve Jobs's keynote address, there was no announcement of new Mac hardware, no news about Leopard, no word about iLife or iWork—and to top it all off, Jobs announced that *Computer* was no longer part of Apple's name.

This has led some pundits to conclude—wrongly—that Apple's success in consumer electronics signifies some sort of decrease in its commitment to the Mac. Part of this stems from Apple's recent history as a one-product company; between the eras of the Apple II and the iPod, the Mac was the only product keeping Apple afloat.

It's time to spread the news that Apple is no longer a one-product company. The iPod, the iPhone, and the Apple TV are not products that Apple created at the expense of the Mac; it created them *in addition* to the Mac.

As for Apple's name change, it's worth noting that when most people hear the word *computer*, they think of machines running Mac OS X or Windows, with menu bars, windows, mice, and keyboards. Jobs alluded to this when he announced the change: "Today, we've added to the Mac and the iPod—we've added Apple TV and now iPhone," he said. "And you know, the Mac is the only one that you really think of as a computer."

But the Apple TV and the iPhone *are* computers. Not only that, the iPhone shares with the Mac a core Apple technology: OS X. Over the past six years, Apple has built Mac OS X into a terrific operating system for general-purpose computers. Now, Apple has taken OS X and adapted it in various ways to use as the heart and soul of specialized consumer gadgetry—computers that neither look nor act like computers as most people know them.

## A Steady Evolution

Considering the scope of Apple's success this decade and the company's reputation for splashy announcements, its progress has been remarkable. Each successive release of Mac OS X has been largely incremental: evolutionary, not revolutionary. So, too, with the iPod's progress from the original 2001 model to the ubiquitous music juggernaut it is today.

The iPhone, however, is not supposed to be merely a little bit better, brighter, smaller, or faster than what preceded it. It is intended to start a revolution. It's hard to compare the iPhone to anything other than Apple's original Macintosh in 1984. (Let's not mention the "N" word—the one that rhymes with *tootin'*.)

The iPod is a computer-like gadget, while the iPhone is clearly a gadget-sized computer. It runs OS X, and its apps are written with Cocoa, the same framework that's used for writing Mac programs.

**The magic is in the software; it's the part of the Mac that matters most.**



The magic is in the software; it's the part of the Mac that matters most. Given the choice between using a MacBook running Windows (via Boot Camp) and a hypothetical Sony Vaio running Mac OS X, almost every Mac user would choose the latter.

Sure, the iPhone and Apple TV hardware matters—but their user interfaces matter more. Whereas Apple's competitors have dealt with increasing complexity by adding buttons (to both smart phones and remote controls), Apple has taken away most of the buttons, funneling all the interface complexity to the display.

Judged by what appears on screen, the iPhone bears only a superficial resemblance to a Mac. That's not a complaint: you wouldn't want to take an interface optimized for a 20-inch display and squish it onto a 3.5-inch screen (or vice versa). But what's going on behind the scenes in the iPhone—and I suspect in the Apple TV as well—is stuff that's based on the same technology that powers the Mac.

As a result, Steve Jobs's confidence in announcing the iPhone wasn't based simply on pride about the device he was holding in his hands. It was also a declaration about the future: *This is just the first example of the sort of things we're now able to make.*

This isn't a new direction for Apple. It's the same path the company has been on all along. *Cool new software powered by OS X, running on beautiful, well-designed hardware* describes the iPhone and the Apple TV just as well as it does the Mac.

And so the irony is that the day Apple announced it was dropping *Computer* from its name may well be remembered as the day when it reasserted itself as the most visionary and innovative computer maker in the world. ☒

**John Gruber** writes and publishes the Mac Web site Daring Fireball ([daringfireball.net](http://daringfireball.net)).





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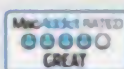
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